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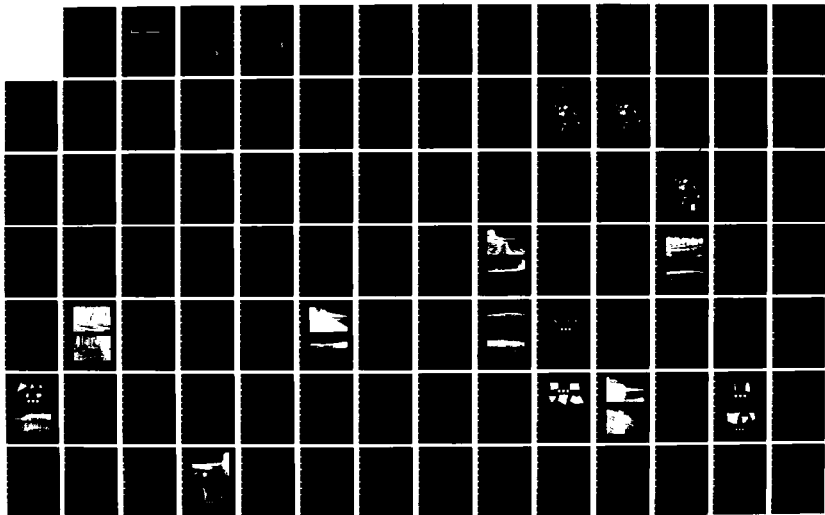
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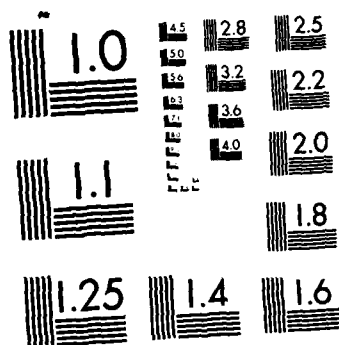
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CULTURAL RESOURCES INVESTIGATION OF
THE RESERVOIR SHORELINES: GULL LAKE,
LEECH LAKE, PINE RIVER, AND LAKE
POKEGAMA

VOL. 1

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Volume One

Cultural Resources Investigation of the
Reservoir Shorelines: Gull Lake, Leech Lake,
Pine River, and Lake Pokegama.

Submitted to
U.S. Army Corps of Engineers
St. Paul District

by
Elden Johnson, Principal Investigator
June 1979

Final Report Contract Number: DACW 37-77-C-0141

Archaeology Laboratory
215 Ford Hall
University of Minnesota
Minneapolis, Minnesota 55455

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Abstract

A literature search and field reconnaissance survey of four Mississippi River Headwaters Reservoirs was conducted by the University of Minnesota under contract with the St. Paul District, Corps of Engineers, U.S. Army in 1978-79. The shoreline reconnaissance survey was completed for the Leech Lake Reservoir, the Pokegama Lake Reservoir, for Gull and Upper Gull lakes in the Gull Lake Reservoir, and for Whitefish, Upper Whitefish, and Cross lakes in the Pine River Reservoir of north central Minnesota.

A total of 155 prehistoric and historic sites were identified adjacent to the shorelines of those reservoirs. Of these sites, 69 are suffering severe to moderate water erosion due to raised water levels and consequent wave action. At least six sites were located which have been completely destroyed and/or submerged by water action. An unknown number of sites are probably completely submerged and now unidentifiable.

The sites located represent human occupation, activities, and burials ranging from the middle post-glacial period to the near contemporary resort and summer home occupations of the land. Recommendations for intensive survey of 125 of those sites are made to determine National Register eligibility and subsequent mitigation.

Recommendations are made for expanded public interpretation on Corps owned lands at the Gull Lake Reservoir damsite, at the Cross Lake damsite, and at some location on or adjacent to Leech Lake.

Additional reconnaissance survey for smaller ancillary lakes in the Gull Lake and Pine River Reservoirs is recommended.

Acknowledgements

A large, complex project such as this Headwaters shoreline reconnaissance survey of necessity involves a very large number of people all of whom have contributed to this report. The Field Directors whose efforts produced the basic data are the major contributors and Christy A.H. Caine, Hamline University; G. Joseph Hudak, Archaeological Field Services; Richard Lane, St. Cloud State University; and Jan E. Streiff, University of Minnesota deserve the major credit for any contributions this report may make.

The research has been facilitated through the cooperation of Robert Post, the contracting officer, and Audrey Thomas, Archaeologist, with the St. Paul District Corps of Engineers. Hartley White, Chairman of the Leech Lake Reservation Business Committee, made possible the work in areas within the Leech Lake Reservation through granting the necessary permit, and his associate Edward Fairbanks, Director of the Leech Lake DNR, gave freely of his time and efforts in arranging contacts with individuals and in setting up a specific research project with Lenee Ross on reservation settlement patterns.

Many residents of the areas surveyed provided information and assistance. The Corps of Engineers Dam Tenders at each reservoir were always cooperative and their help was instrumental in much of the work. The Chippewa National Forest files on historic sites were opened to us through the assistance of Stanley Johnson who was responsible for the compilation of most of those data. It is not possible to enumerate all of the regional residents who volunteered information or provided access to private archaeological collections, but two individuals who have consistently been of major help through their intimate knowledge of the region are E. Farrell Creech and William Marshall. Exceptional data, meticulously collected, was also furnished by Douglas Birk, Minnesota Historical Society.

The files of the State Archaeologist were available through the Archaeology Laboratory, University of Minnesota, and through the present State Archaeologist, Christy A.H. Caine, Hamline University. Access to information in the State Historic Preservation Office was provided through its Director, Charles Skrief, and Edward Lofstrom.

The many crew members who participated in the field survey include Paul Picha, David Siddall, David Radford, and Thomas Grones of Hamline University; H. Clyde Pedersen, L. L. Emery, Curtis M. Hudak, and Timothy O'Brien who worked with the Archaeological Field Services party; the very large number of students enrolled in the St. Cloud State University summer field school, Fern Swenson of the St. Cloud Museum of Man, and particularly Laurie Lucking, University of Minnesota, who served as the graduate student field assistant in the Pokegama Reservoir project. University of Minnesota undergraduate students employed in the field/laboratory phases of the project assisted in both the data collection and the data processing and include Mathew Jarosz, Bradley Johnson, and Dyann Parrott. Major contributions by University of Minnesota graduate students include writing of the section of this report on the regional ecology/paleoecology by Jeanne Schaaf and the writing of the synthesis of the historic period cultural developments/literature search by John Anfinson. LaRayne Kuehl of the University of Minnesota Anthropology Department office typed the final manuscript. Jan E. Streiff who served as the Leech Lake Field Director also directed and coordinated the

laboratory analysis and the preparation of this report. The final product would not have been possible without her efforts.

I wish to thank all of those named above who contributed so much to this project and I offer the same thanks to the many unnamed contributors who gave of time and information.

Elden Johnson
Principal Investigator

5 April 1979

2. Introduction

Four Upper Mississippi River Headwaters reservoirs located in Minnesota and controlled by the U.S. Army Corps of Engineers were surveyed for shoreline cultural resources during calendar year 1978. Each of these reservoirs, Gull Lake, Leech Lake, Pine River, and Pokegama Lake, is managed by the St. Paul District, Corps of Engineers, which controls water levels through dams or control structures at the outlet of each reservoir. Corps of Engineers owned lands at or adjacent to these reservoirs are minimal as the majority of lands adjacent to the shoreline are variously owned by private persons, state of Minnesota agencies, and other federal agencies. Water levels within each reservoir system were raised significantly when the control dams were first constructed at the outlets of what are naturally formed lakes. That rise in water levels combined with seasonal fluctuations, governed in part by Corps of Engineers water flow management policies, has had and continues to have an obvious negative impact on cultural resources located on or immediately adjacent to the reservoir shorelines. The primary purpose of this cultural resources investigation was to locate those cultural resources, estimate their probable significance, evaluate the impact of past and current water erosion where possible, suggest future public interpretation efforts, and submit this report containing the details of the results of the literature search and field survey.

The precise requirements of the contract can best be seen in the following direct quotations from pertinent sections of the Scope of Work that governed this contract:

"1.05 For the purposes of this study, the cultural resources investigation will include a literature search and records review and an on-the-ground examination of the areas specified in the accompanying project description. The examination of the shoreline areas will be a reconnaissance survey and testing sufficient to determine the number and extent of cultural resources, their scientific importance and the requirements for their preservation or recovery. The examination of Corps owned or controlled lands will include intensive survey of any located sites so that recommendations about eligibility for the National Register of Historic Places can be made. The record and literature search will include all of the lakes associated with each reservoir as listed in Section 6.0. The field work will include the lakes with the priorities as discussed in Section 6.0.

1.06 The Contractor will utilize a systematic, interdisciplinary approach in conducting the study. The Contractor will provide specialized knowledge and skills during the course of the study, to include expertise in the disciplines of archaeology, history, geography, paleontology, and other social and natural sciences as required. Personnel involved with the work under this contract will meet the minimum professional qualifications outlined in Appendix A. Methods and techniques used for the study will be consistent with the current state of professional knowledge and development.

1.07 The work will be based on and compatible with the experience gained and information obtained by the contractors responsible for the inventory surveys at Lake Winnibigoshish and Big Sandy Lake Reservoirs. The field work and report will be consistent with and comparable to that presented in the Cultural Resources Inventory of Lands Adjacent to Lake Winnibigoshish, a contract report submitted to the St. Paul District in June 1977."

The Scope of Work also discusses the specific requirements for the field survey segment of the research:

"2.03 The on-the-ground examination will be reconnaissance survey and testing of the area of sufficient intensity to determine the number and extent of cultural resources, their scientific importance and the requirements for their preservation or recovery. An attempt will be made to locate any resources previously recorded in the project area, and their condition as it may affect their significance will be evaluated. Insofar as a limited amount of testing may be required, the disturbed areas will be returned as close as is practical to presurvey conditions.

2.04 As a reconnaissance survey, the investigation of the shorelines is primarily designed to locate and define sites, to assess their present condition, and to recommend appropriate future consideration for the preservation and protection of the sites. Therefore, it is not specifically intended that this work will produce data about sites which is sufficient for nominations to or Determinations of Eligibility for inclusion in the National Register of Historic Places. When circumstances are such that a recommendation concerning Register eligibility can be made, the Contractor will do so.

2.05 In the areas owned or controlled by the Corps, the work will consist of intensive surveys of any sites which are identified. The boundaries of the sites will be carefully determined and an evaluation of the significance of each site will be made. Sites in these areas will also be evaluated in terms of their potential for development as educational facilities for the public."

The boundaries of the field survey areas and the survey priorities for a series of lakes in any single reservoir system are also clearly specified in the Scope of Work:

"6.01 The areas of concern for this cultural resources investigation are the shorelines of Gull Lake, Leech Lake, Pine River and Pokegama Lake Reservoirs, and the various parcels of Corps-owned land located at dam sites, recreation areas and other localities.

6.02 For the shoreline portions of the study, the area to be examined will include all lands within 50 meters of the water's edge at the time of the field work, with the following exceptions:

a. Those areas of wetlands and steep slopes which, on the basis of knowledge about past water levels and professional archaeological judgement, can be determined to have insignificant potential for containing prehistoric or historic archaeological sites.

b. In those areas of the shoreline where there is evidence of erosion, the reconnaissance will include all lands 50 meters inland from the top of the eroding bank regardless of elevation (see below items 6.02 c, d, e and f).

c. For Gull Lake Reservoir, the reconnaissance will include the shorelines of Gull and Upper Gull Lake. If an elevation of 1200 feet is exceeded within 50 meters of the water's edge and there is no evidence of erosion, the reconnaissance will include only the land from the water's edge to the elevation of 1200 feet. Margaret, Bass, Spider, Roy, and Nisswa Lakes

will be surveyed as funds and time allow. These remaining lakes will be surveyed according to the following priorities: Documented sites will receive first priority, undeveloped shoreline second, and developed shoreline third.

d. For Leech Lake Reservoir, if an elevation of 1300 feet is exceeded within 50 meters of the water's edge and there is no evidence of erosion, the reconnaissance will include only the land from the water's edge to the elevation of 1300 feet.

e. For Pine River Reservoir, the reconnaissance will include the shorelines of Cross, Big Trout, Lower Whitefish and Upper Whitefish Lakes. If an elevation of 1240 feet is exceeded within 50 meters of the water's edge and there is no evidence of erosion, the reconnaissance will include only the land from the water's edge to the elevation of 1240 feet. Daggett, Little Pine, Rush, Island, Pig, Arrowhead, Clamshell, Bertha, and Lower Hay Lakes will be surveyed as funds and time allow. These remaining lakes will be surveyed according to the following priorities: Documented sites will receive first priority, undeveloped shoreline, second, and developed shoreline third.

f. For Pokegama Lake Reservoir, the reconnaissance will include the shorelines of Pokegama Lake and its islands, Jay Gould and Little Jay Gould Lakes, Cut-Off and Blackwater Lakes and the Mississippi River from its outlet to the Corps-operated dam. If an elevation of 1280 feet is exceeded within 50 meters of the water's edge and there is no evidence of erosion, the reconnaissance will include only the land from the water's edge to the elevation of 1280 feet.

6.03 The Corps owns several parcels of land adjacent to or near the four reservoirs. Those parcels which are included in existing or proposed public use development areas will be intensively surveyed as described in Section 2.05. Those parcels which are not currently being considered for development will be investigated by reconnaissance survey only.

a. At Gull Lake Reservoir, approximately 19 acres of land on the north shore of Nisswa Lake will be covered by a reconnaissance survey. The approximately 82 acres adjacent to the dam site at the outlet of the Gull River will be intensively surveyed. This intensive survey will be complementary with previous work done in this area under other Corps contracts.

b. At Leech Lake Reservoir, the Corps owns approximately 45 acres which will be intensively surveyed. As at Gull Lake, the work will be complementary with previous studies.

c. At Pine River Reservoir, the Corps owns approximately 475 acres in scattered parcels. About 100 acres at the three public use areas at Cross, Clamshell, and Arrowhead Lakes will be intensively surveyed. The other parcels will be covered by reconnaissance survey.

d. At Pokegama Lake, the Corps owns approximately 10 acres of land at the dam site and adjacent recreation area. Most of this property has been previously disturbed by construction of maintenance and recreation facilities. The Contractor will conduct an intensive survey of those areas that are yet undisturbed."

Field survey techniques included a reconnaissance survey of shoreline areas and an intensive survey of the few Corps of Engineers owned lands. The definitions and requirements of each of these survey forms followed those specified by the Department of Interior, National Park Service as described in 36 CFR Part 66, Appendix B, published in the Federal Register, Volume 42, No. 19, January 28, 1977, page 5381. These procedures were used in the previous Lake Winnebigoishish shoreline survey (Johnson, Harrison, Schaaf 1977) which the Scope of Work designated as the model to be followed. In that survey, survey teams of two or more persons walked the entire shoreline in a field inspection of shallow water at the beach, the exposed beach, eroding uplands at the beach edge, and adjacent land surfaces within the boundaries of the project. The effort was made to determine not only the presence or former presence of a site seen from the literature search or field location of eroded cultural materials in the water or on the beach, but to determine whether or not any portion of the site remained intact in or on the adjacent land surface. Experience at Lake Winnibigoshish showed that many sites had completely eroded leaving only scattered cultural materials in the shallow water or on the beach. Where surface examination of the land surface was inconclusive due to heavy vegetation cover or where historic surface structures were absent, shovel testing was done to determine the nature and extent of the site area. Ideally, each site would have been shovel tested in this way despite the fact that a reconnaissance survey does not call for survey of that intensity. This was not possible in many cases because the private property owner either refused permission for such testing or the owner could not be located to obtain permission.

Each parcel of Corps of Engineers owned land was subjected to intensive field testing if that had not been done previously. The results of that intensive testing are included in this report.

The research goals of this investigation are numerous, though the limited quantity of data collected on such a reconnaissance survey are insufficient to answer the majority of those questions. Among the major questions facing a researcher in this area are those of human adaptation and cultural change in a region of changing and diverse environmental settings and cultural systems. Land utilization practices have varied through time both in response to significant environmental shifts and the introduction of varied new cultural systems. These changes are reflected in major alterations in settlement patterns, major shifts in subsistence economies during the prehistoric and early historic periods where diffuse patterns become modified toward focal patterns in late prehistoric intensive wild rice utilization and in early historic fur trade patterns, and in a total short-lived change toward a major environmental exploitation in the middle historic period through intensive lumbering. Such modifications also reflect changes in population size and demographic profiles. The basic data necessary to the analysis of these environmental and cultural changes are to be found in archaeological sites that existed during the prehistoric and early historic periods and in the combined literature and remaining sites of the middle and late historic periods. Important as this major Mississippi River Headwaters area is to these fundamental problems, it is amazing to note that not a single archaeological excavation has ever been conducted on sites located on the Leech Lake or Pokegama Reservoirs, that only a single burial mound excavation has been done on the Pine River Reservoir, and that only very recently has work been done on any sites in the Gull Lake Reservoir. Historic research on Dakota ethnohistory is almost nonexistent while Ojibwa ethnohistory of the reservation period is virtually unknown. The intensive lumbering activities are probably best reported but even they are not analyzed in the context of the land utilization-settlement

pattern framework. Finally, the lakeshore resort and seasonal private home economy that dominates the entire area today has received virtually no attention.

It is the hope that this report will provide basic data on existing site locations that will be used in the near future by many individuals to develop significant problem-oriented research projects. The report may also provide data for use in public interpretation on one or more of the cultural periods, an activity that would have a useful result in this region of major tourist concentration.

The size of this project and the very brief single Minnesota field season available for the shoreline survey demanded the inclusion of several qualified field directors and crew members. To accomplish this, the University of Minnesota as the institution holding the contract issued subcontracts to Archaeological Field Services, Inc. for the Pine River Reservoir survey, to Hamline University for the Gull Lake Reservoir survey, and to the St. Cloud State University Museum of Man for the Pokegama Reservoir survey. The University handled the Leech Lake survey. The respective field directors were G.J. Hudak, Christy A.H. Caine, Richard Lane, and Jan E. Streiff, each experienced and each qualified for that role.

The field directors conducted their respective surveys under the requirements of the Scope of Work for the contract, but each operated in a slightly different fashion. Lane at the Pokegama Reservoir, for example, had a qualified graduate student, Laurie Lucking, in charge of much of the field work and used students enrolled in a field archaeology techniques course as crew members. Caine also used Hamline students in her field research with Jan E. Streiff working with students. Hudak and Streiff at Pine River and Leech Lake Reservoirs employed qualified crew members. The advantage of large numbers of students as crew members can be seen in the additional shovel testing on sites in the Gull and Pokegama Lakes Reservoirs.

This report is contained in three separate volumes. The first volume includes this introduction, a review of the environmental setting, a review of previously known prehistoric and historic data combined with the literature search results, the site data for each reservoir, and a concluding summary and recommendations section. Volume two contains the individual site location data with a map based on the U.S.G.S. 7.5' quad. for each site. Volume three contains large maps for each reservoir on which sites are located and designated.

Finally, it is important to note that this reconnaissance survey differs from those frequently employed in federal lands cultural resources inventories. Our survey is a 100% shoreline survey of each reservoir and is not one of sampling to produce a predictive model. In these reservoirs, our surveys omitted only those shoreline areas where the raised water levels have produced extensive wet marshes.



3. Environmental Setting

The initial purpose of the headwaters reservoirs project was to improve navigation on the Mississippi River below St. Paul. The impoundment of large volumes of water and subsequent controlled fluctuations of water levels had a profound impact on adjacent land and cultural resources. The Corps has only recently recognized responsibility for impacted historic and prehistoric resources. However, after dam construction, the Corps became immediately involved in controversies demanding water control operations that would accommodate the needs of strong and often conflicting economic interests: the lumber industry, agriculture and later, the tourist industry. It was not until the 1930's and early 1940's when navigation was no longer a concern that the reservoir operation guidelines were officially revised to control for "multiple use" benefit.

Initial Operating Data for the Headwaters Reservoirs

<u>Reservoir</u>	<u>River</u>	<u>Original</u> <u>lake area</u> <u>(sq. mi.)</u>	<u>Reservoir</u> <u>area</u> <u>(sq. mi.)</u>	<u>Begun</u>	<u>Completed</u>
Winnibigoshish	Mississippi	117	179.4	1881	1900
Leech Lake	Leech	173	250.9	1882	1902
Pokegama	Mississippi	24	35.0	1882	1904
Sandy Lake	Sandy	8	16.6	1891	1909
Pine River	Pine	18	23.7	1883	1907
Gull Lake	Gull	20	20.5	1911	1913

(from, Environmental Review of the Headwaters, Center for Environmental Studies, 1973)

The system of six dams and reservoirs operated by the Corps of Engineers in the Upper Mississippi River Basin controls a total watershed area of 24,687 sq. miles (figure 1). Only the Winnibigoshish and Pokegama reservoirs are on the main channel and together they control 80% of the impounded water of the system. The other four reservoirs, Leech, Sandy, Pine River and Gull Lakes are on tributary rivers listed on the above chart. Numerous other connecting lakes are directly affected by the water control and at times become important components of the Corps reservoir system. For instance, when Lake Winnibigoshish is at the 12' stage (normal operating levees are 6 - 14.5'), the Knutson dam at the outlet of Cass Lake is drowned out and Cass Lake becomes part of the Winnibigoshish reservoir, storing up to 16% of the total volume stored in Winnibigoshish. The following table is a summary of the operating data for each of the reservoirs, including reservoir areas, watershed areas, operating limits and miles of shoreline.

① Generally agrees w/ 1925 report by Dist. Engr.

② At Maximum operating level.

Table 1 Headwaters Reservoirs Operating Data

Reservoir	Gull Lake	Pine River	Leech	Winnibigoshish	Pokegama	Big Sandy
Dam Location	11 mi. NW of Brainerd on Co. Rd. 105	22 mi. N. of Brainerd at the village of Cross Lake	Just west of Federal Dam on Co.Rd. 8	14 mi. NW of Deer River on Highway 2	3 mi NW of Grand Rapids on Hwy.2	12 mi. N. of McGregor on Hwy. 65
River	Gull River	Pine River	Leech Lake River	Mississippi River	Mississippi River	Sandy River
Drainage Area Sq. Miles	287	562	1163	1442	660	421
Reservoir Area	13,100 acres	13,334 acres	122,880 acres (192 sq.mi.)	75,000 acres (117 sq.mi.)	15,000 acres (23.4 sq.mi.)	9,500 acres
Average Storage Capacity	26,200 ac./ft.	40,000 ac./ft.	306,00 ac./ft.	300,000 ac./ft.	60,000 ac./ft.	38,000 ac./ft.
Maximum Storage Capacity		106,700 ac./ft.	695,000 ac./ft.	653,600 ac./ft.	149,000 ac./ft.	74,000 ac./ft.
Dam's Zero Elevation	1190.0'	1218.2'	1293.76'	1290.08'	1265.3'	1209.0'
Min. Pool Elevation	1192.75'	1227.32'	1293.20'	1296.94'	1270.42'	1214.31'
Average Pool Elevation	1193.87'	1229.32'	1294.70'	1299.79'	1273.42'	1216.31'
Full Pool Elevation	1197.0'	1236.7'	1296.76'	1302.08'	1275.3'	1220.0'
Desirable Operating Limits	1192.75'- 1194.75'	1227.32'- 1230.32'	1293.20'- 1295.70'	1296.94'- 1299.44'	1271.42'- 1274.42'	1214.31'- 1218.31'
Desirable Summer Range	1193.75'- 1194.0'	1229.07'- 1229.57'	1294.50'- 1294.90'	1298.94'- 1299.44'	1273.17'- 1273.67'	1216.06'- 1216.56'

Table 1 (Continued)

Reservoir	Gull Lake	Pine River	Leech	Winnibigoshish	Pokegama	Big Sandy
Maximum Elevation Ever Attained	1195.05'	1234.56'	1297.88'	1303.39'	1277.92'	1224.82'
Land in Fee	100.4 ac.	475.58 ac.	44.45 ac.	0	10.58 ac.	1116 ac.
Flowage Rights Acquired: to						
Elevation	1198.75'+/	1238.82'+/	1301.70'+/	1306.94'+/	1280.42'+/	1222.31'+/
of/Acres	15150 acres	21794 acres	100743 ac.	82460 acres	66516.26 ac	9785 acre
Miles of Shoreline	35.6	112	182.3	55.9	50.8	56.5
Feet of Corps Land	7440'	17210'	4000'		2072'	8190'

(from Miss. River Headwaters Reservoirs: Master Plan, p. 12)

Landscape and Surficial Deposits

The landscape of the upper Great Lakes region is largely the result of the Wisconsin, or last major glaciation of the Pleistocene. Formations of rugged hills and ridges mark the advance of ice lobes and numerous lakes, outwash planes, and unique features such as eskers and drumlins record stages of ice retreat. Smaller scale modification of landforms is continuing primarily as a result of increased erosion from intensive land clearing for agriculture. Erosional deposits are accelerating the natural conversion of many lakes into bogs and marshes.

The glacial history of the Upper Mississippi drainage basin is quite complex with a stratigraphic record of overlapping tills and deposits of reworked tills from earlier glaciations. The description to follow is very general at best. Refer to figure 2 for the following discussion. (The terminology used follows Wright and Ruhe 1965.)

The Mississippi River flows northward from its source in Lake Itasca in southern Clearwater Co. across the Itasca moraine which is a formation of the Wadena lobe advancing from the northwest c.a. 20,000 years ago. The moraine is 15 to 20 miles wide with ridges 1500' to 1600' above sea level (a.s.l.) some reaching 1700' to 1800' a.s.l. The intermoraine relief is generally 200', sometimes reaching 300'. The buff, sandy drift is rich in pebbles of limestone and granite and notably lacking in the shales characteristic of later advances of the Des Moines lobe. Numerous north-south trenches (subglacial tunnel valleys) are cut deeply into the moraine. They are filled by lakes, bogs, or sand deposits, and continue north onto the broad outwash plain of the "Bemidji Area". The Mississippi flows northward as an underfit stream through one of these bog filled trenches and then shifts to another to the east before flowing eastward across southern Beltrami county to Lake Winnibigoshish. This area is an extensive,

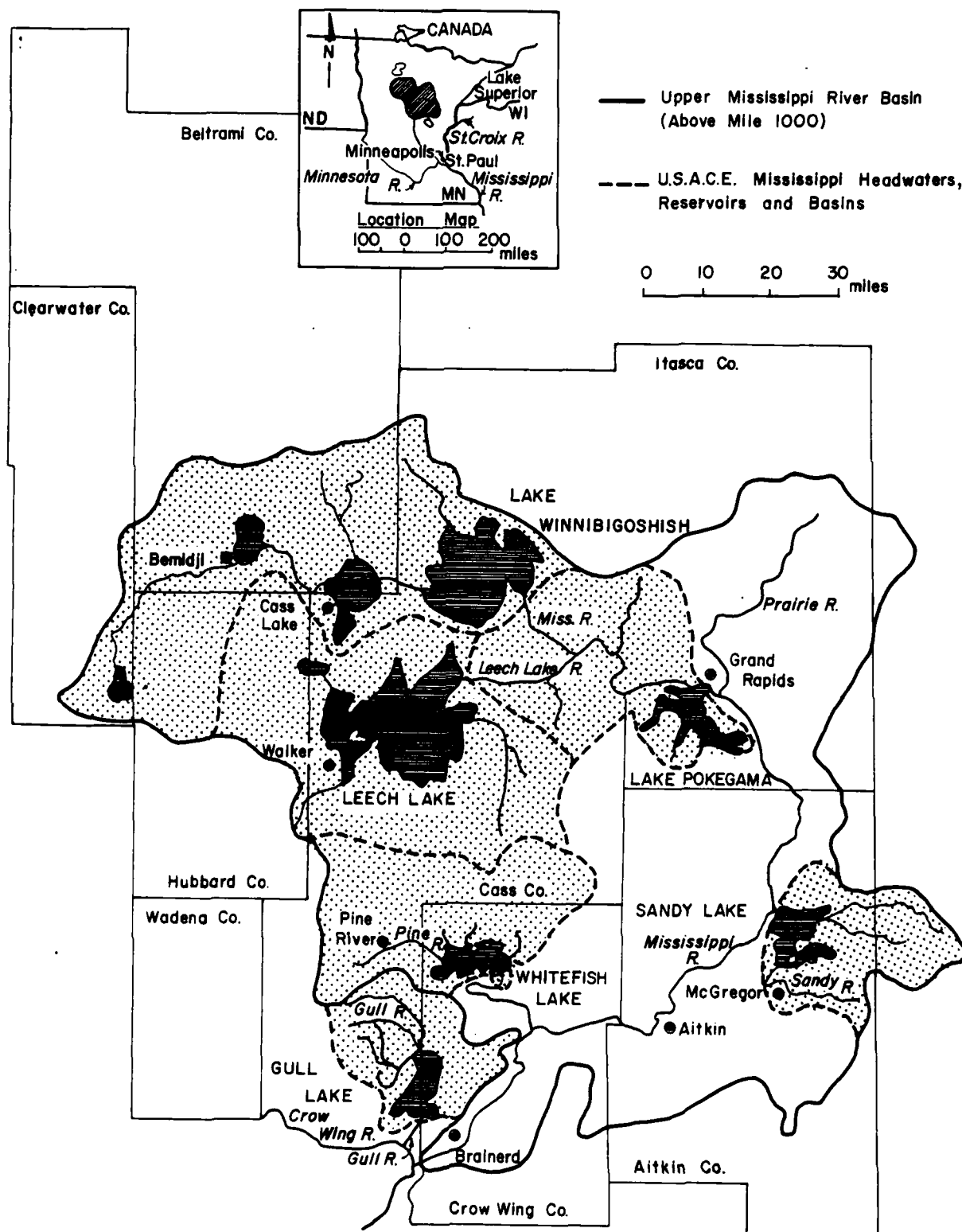


Figure 1. Upper Mississippi River Basin and Reservoirs (modified from Bemidji State University, Center for Environmental Studies Report, 1973)

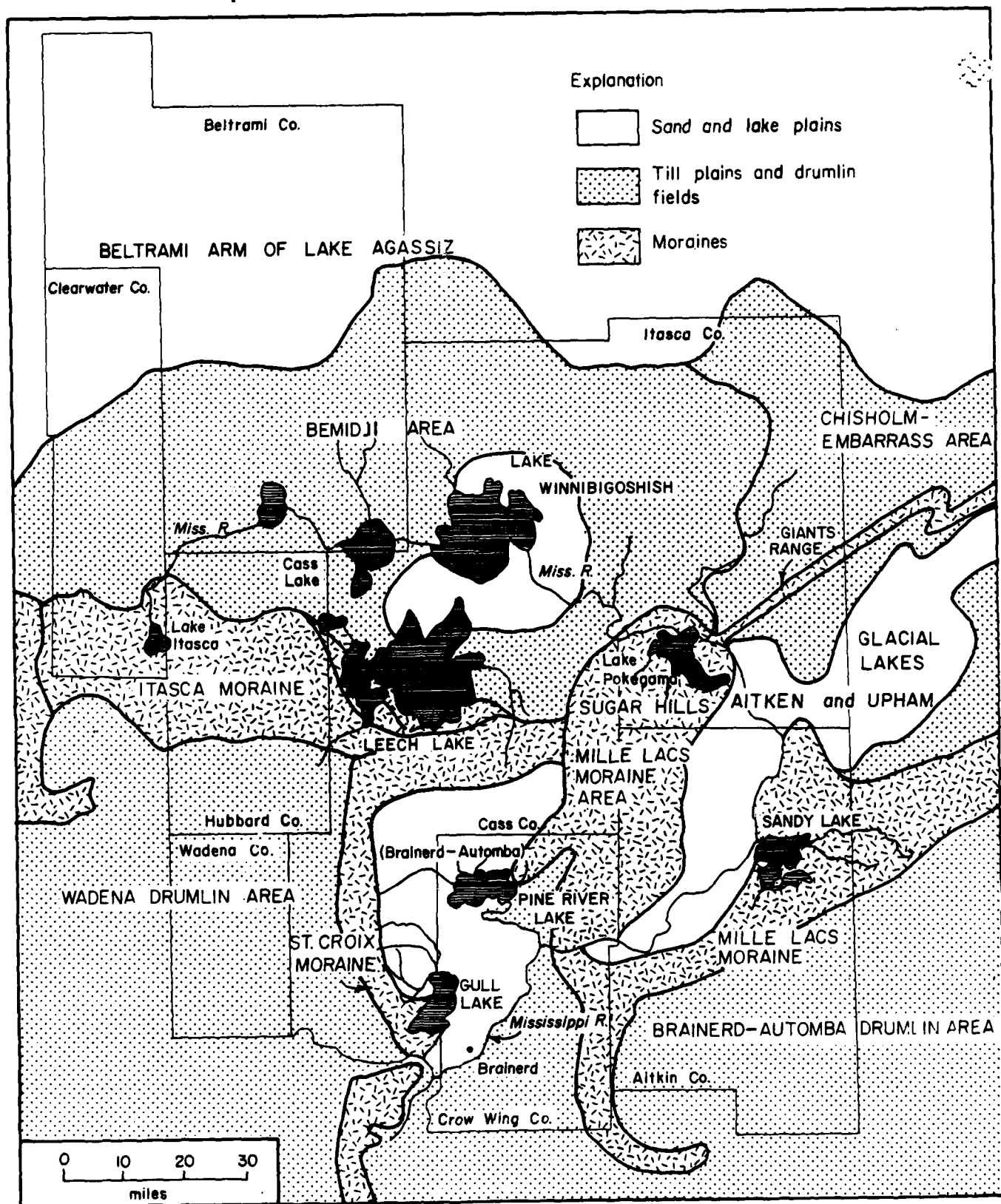


Figure 2. Physiographic Areas of the Upper Mississippi River Basin (after Wright 1972)

lake-dotted outwash plain of fine to coarse sand. Before 4,000 years B.P. the river probably flowed south across a loamy till plain to Leech Lake, bypassing Winnibigoshish. The till in this plain is usually light or yellowish brown (rarely gray despite its earlier label, "Gray Drift"). It is dominated by limestone and dolomite pebbles and fragments of granites. It also contains diagnostic fragments of siliceous shale which imparts a clayey texture. Just south of Leech Lake this drift is a thin veneer over red tills from the northeast.

Following its modern course, the Mississippi flows in a shallow, narrow valley through an extensive fine sand dune field immediately south of the Winnibigoshish outlet. Near Pokegama Lake in southern Itasca County the channel cuts through the clay-rich red till of the Sugar Hills-Mille Lacs moraine complex. This complex is a composite of different drifts of geneses not yet completely understood. Much of the area also has a layer of brown till capping the stony-sandy moraines of red till. The maximum relief of the ridges is 200' with crests of 1300' a.s.l., locally reaching 1400' a.s.l.

The river meanders widely across the flat plain of Glacial Lakes Aitkin and Upham as it flows southward through north central Aitkin County. Sandy Lake borders this lake plain on the east and lies within the Mille Lacs moraine complex. The genesis of the drift here probably relates to standstill and wastage of the Superior and Rainy lobes (St. Croix phase) during climatic amelioration sometime between 20,000 and 16,000 years B.P. The till is brown and sandy and contains numerous pebbles and boulders of granites and gneisses.

The channel follows the Cuyuna iron range southwestward from Sandy Lake to Gull Lake. Near Brainerd, the river has carved a fairly distinct valley through the till and outwash deposits of the "Brainerd-Automba Drumlin Area". North of Brainerd lies a large complex of pitted outwash plains which encompass the Pine River reservoir and the north and east shores of Gull. A small group of 100 drumlins is located south of Brainerd with an outlying cluster of 12 near Pine River. The drumlins are composed of brown sandy till like that of the St. Croix moraine to the immediate west. Portions of Gull Lake are within the western St. Croix complex. The crest of the moraine reaches 1400' to 1500' a.s.l. with a relief of 50' to 200' above the plains to the east. South of Gull Lake, the Mississippi travels southward through 50 miles more of the "Brainerd-Automba Area", leaving the watershed area concerned in this report.

Soils

This section is a summary description of the soils adjacent to Leech, Pokegama, Pine River and Gull Lakes, partially discussed in previous pages. Winnibigoshish and Big Sandy Lakes have been discussed in separate reports (Johnson, 1977, and Hudak, 1979).

Along the north shore of Leech Lake, the soils are loamy to a depth of 10' or more, moderately to well drained and light colored (formed under forest cover). To the northeast, is a large area of poorly drained peat in depressions and old lake basins. South of the lake, the upper 5' of sediment are sandy soils overlying at least 5' of loamy soil. These soils are also well drained and light colored. To the southwest, the uppermost 10' are sandy, with some drainage and color as to the south. The upper 5' of soils bordering the northwest shore are loamy oversandy soils, well drained and light colored.

Soils are diverse around Lake Pokegama owing to the differing till and outwash plains, and moraines in which the lake basin lies. All soils are light colored

forest soils, with well drained calcareous loam or sandy sediments on the upland and peat in the depressions. There are also fine textured red-clay tills, slightly calcareous and moderately to well drained. A third major soil type is coarse to fine textured organic soils of glacial lake plains (waterlain sands, loam and silts).

The Pine River reservoir forest soils are coarse to medium textured formed from glacial outwash gravels and sands and often overlain by a layer of fine sandy loam. The finer soils are excessively drained and subject to drought and wind erosion.

The soils to the south, north, and east of Gull Lake are like those adjacent to the Pine River Reservoir. To the west are light colored soils formed from non-calcareous glacial gravel, sand and loam with abundant stones. Hardpan underlies numerous bordering lakes, peat lowlands and marshes, especially on the northwest shore.

The modern vegetation of the headwaters region is within the southwesternmost extent of the Pine-Hardwoods Forest formation. Red and white pine (*Pinus resinosa* and *P. strobus*) are the dominant species in association with boreal forest genera, mainly fir (*Abies*) and spruce (*Picea*). Other common genera are members of the deciduous forest flanking the headwaters drainage basin on the southwest. They include oak (*Quercus*), maple (*Acer*), basswood (*Tilia*), elm (*Ulmus*), and aspen (*Populus*). The vegetational zones are largely controlled by latitudinal temperature gradients and longitudinal precipitation gradients and thus occur as diagonal bands across the state (figure 3).

The table below shows the percent of forest cover in the headwaters region by county. It is compiled from aerial photo-based computer maps supplied by the Minnesota State Planning Agency. Accuracy of the maps is not guaranteed for land areas smaller than 160 acres and therefore it is necessary to refer to the more detailed vegetation descriptions which follow.

Table 2
Percent of Forest Cover in the Counties of the Headwaters Region

County / % Cover	white, red or jack pine	spruce- fir	oak	elm-ash- cottonwood	maple-birch basswood	aspen-birch	unproductive	non-forested (incl. lakes)
Clearwater	5.3	3.4		.7	.6	51.4	.2	33.1
Beltrami	3.5	12.8		1.8	.5	37.7	5.7	37.6
Hubbard	15.5	4.4				56.5	.4	22.9
Itasca	3.8	17.9		1.3	3.4	57.0	1.7	14.6
Cass	7.2	7.2	2.2	.4	2.8	51.8	1.2	26.8
Crow Wing	5.3	1.7	12.4	.1	.3	53.5	1.9	24.5
Aitkin	1.2	16.8	.1	9.3	11.3	28.4	5.2	28.4

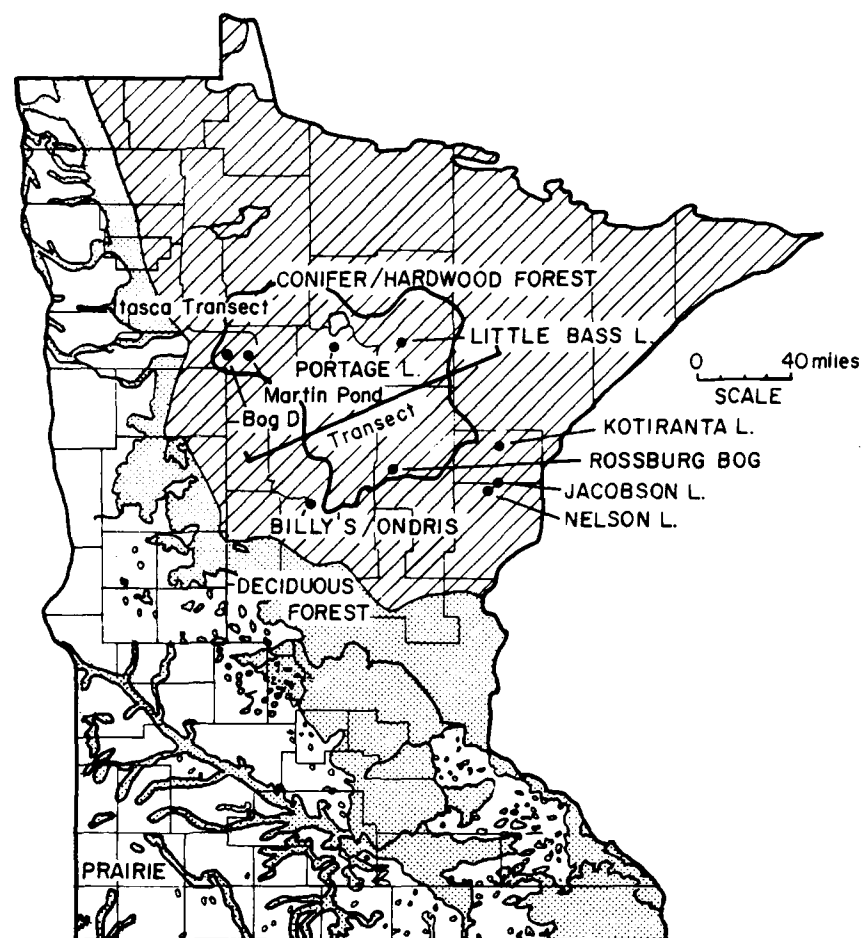


FIGURE 3. VEGETATION ZONES AND POLLEN CORE SITES. (MODIFIED FROM WADDINGTON 1969)
MISSISSIPPI DRAINAGE BASIN OUTLINED AND TRANSECT BASE FOR PALEO-
VEGETATIONAL TRENDS CHART SHOWN.

<u>POLLEN CORES</u>	<u>LOCATION</u>	<u>SOURCE</u>
BOG D	HUBBARD NWSW SEC.30 T143 R35	MCANDREWS 1966
MARTIN POND	HUBBARD NESW SEC.26 T143 R34	MCANDREWS 1966
PORTAGE LAKE	CASS NW SEC.33 T142 R27	MCANDREWS UNPUBLISHED
LITTLE BASS LAKE	ITASCA SE SEC.35 T 56 R26	P.SWAIN UNPUBLISHED
BILLY'S LAKE/ONDRIIS POND	CASS SWSW SEC.12 T113 R30	JACOBSON 1975
ROSSBURG BOG	AITKIN SWNW SEC.19 T 47 R25	OGAWA IN WRIGHT AND WATTS 1969
KOTIRANTA LAKE	CARLETON SEC.23 T 49 R18	WRIGHT AND WATTS 1969
JACOBSON LAKE	PINE SEC. 2 T 45 R19	WRIGHT AND WATTS 1969
NELSON LAKE	PINE SEC. 2 T 45 R19	JACOBSON 1975

Birch-aspen growth clearly dominates the forested areas in the watershed, representing over 50% of the cover in all the counties except Beltrami (37.7%) and Aitkin (28.4%). The pine forests which once covered 70% of Minnesota, with canopies of 200' and trunk diameters of 5', represent less than 6% of the forest in the headwaters region.

Detailed vegetation surveys of the reservoir shorelines were conducted by the Center for Environmental Studies (CES) of Bemidji State University (1973). Modern vegetation maps for Leech, Pokegama, Pine River and Gull are presented in that report and are not reproduced here. The following discussion is summarized from the CES headwaters environmental review.

It is estimated that 25% of the shoreline of Leech Lake is bog. Northern hardwoods (maple-basswood) and floodplain (elm-ash) forests dominate the remainder of the undeveloped shoreline. Birch-aspen and mixed pine-hardwood associations are present but not abundant. Seven vegetation communities at Leech were examined by the CES of Bemidji. They show to a great extent that the communities are intermixed and quite complex.

1. mixed hardwood community (upland)
2. pine-hardwood mix
3. elm-ash and maple-basswood mix on gentle slopes
4. elm-ash community
5. bog
6. and 7. elm-ash grading to maple-basswood.

Inclusive lists of genera recorded at these sites are available in the CES report.

Most of Pokegama Lake is flanked by moderate to steep banks. The forest cover is mostly maple-basswood or birch-aspen. Low elevations along the north shore support elm-ash forests with maple-basswood on the interior uplands. Occasional small pure stands of red and white pine are found around the lake. Marsh communities are common in the bays. Five communities were described by the CES:

1. birch-aspen growth being succeeded by maple-basswood climax forest
2. maple-basswood
3. lowland conifers grading upland to maple-basswood
4. birch-aspen and lowland conifer mix
5. pure birch stand grading upland to maple basswood.

The Pine River reservoir is also surrounded by steep banks. These uplands support a conifer-hardwoods mix. More than 50% of the shoreline vegetation contains red, white and jack pines as important elements. When present on the banks, the vegetation is generally a birch-aspen growth. Four shoreline communities were described by the CES.

1. climax maple-basswood (island)
2. nearly pure pine stand (all three species present)
3. pine-hardwood mix
4. cattail and sedge marsh.

Gull Lake's generally low shoreline is intensively developed with very few areas of undisturbed vegetation remaining. Mesic deciduous woods such as elm-ash, maple-

basswood, and oak-aspen associations are found in places. A few stands of pine or pine-hardwoods were also noted. Three communities were examined by the CES at Gull:

1. birch-aspen with pines and hardwoods succeeding to maple-basswood
2. maple-basswood climax
3. elm-ash and birch association

Vegetation history

Analysis of pollen deposits in lake sediments permits an approximate reconstruction of past vegetational sequences from which climatic inferences may be made. Numerous pollen cores have been collected across Minnesota but a very few are from the north central region. The description of the paleo-environment for the headwaters region has had to be interpreted from pollen core sites that are largely peripheral to the area. The sites used for the interpretation are shown in figure 3. Legal descriptions and sources are also provided. The postglacial vegetational sequence is represented on the chart, Figure 4, as a 120 mile long transect crossing the watershed area from southwest to northeast, perpendicular to the ecotones. Leech, Winnibigoshish and Pokegama are north of the transect and Gull, Pine River and Sandy lie to the south.

By roughly 12000 years B.P., glacial ice masses retreated from Minnesota, leaving blocks of ice buried under glacial drift and outwash deposits. Depressions were enlarged and filled as the ice melted, forming the basins of the reservoir lakes.

A short-lived tundra or dwarf shrubland may have locally existed near the ice margin, but was rapidly replaced by a spruce forest. Genera in this forest included birch, aspen, elm, ash, and cedar with a notable absence of pine. Weeds and shrubs indicate park-like openings in the forest. It is estimated that the mean annual temperature may have been 6°F. cooler with 20% less precipitation than the climate in the forests of northwestern Minnesota today (McAndrews 1966). Associated fauna included open land grazers such as woodland musk ox, mammoth and barren ground caribou (Cleland 1966).

The continued warming trend replaced the boreal spruce forest with a jack or red pine dominated forest between 10,000 and 11,000 years B.P.

Paleo-Vegetational Trends for Headwaters Region

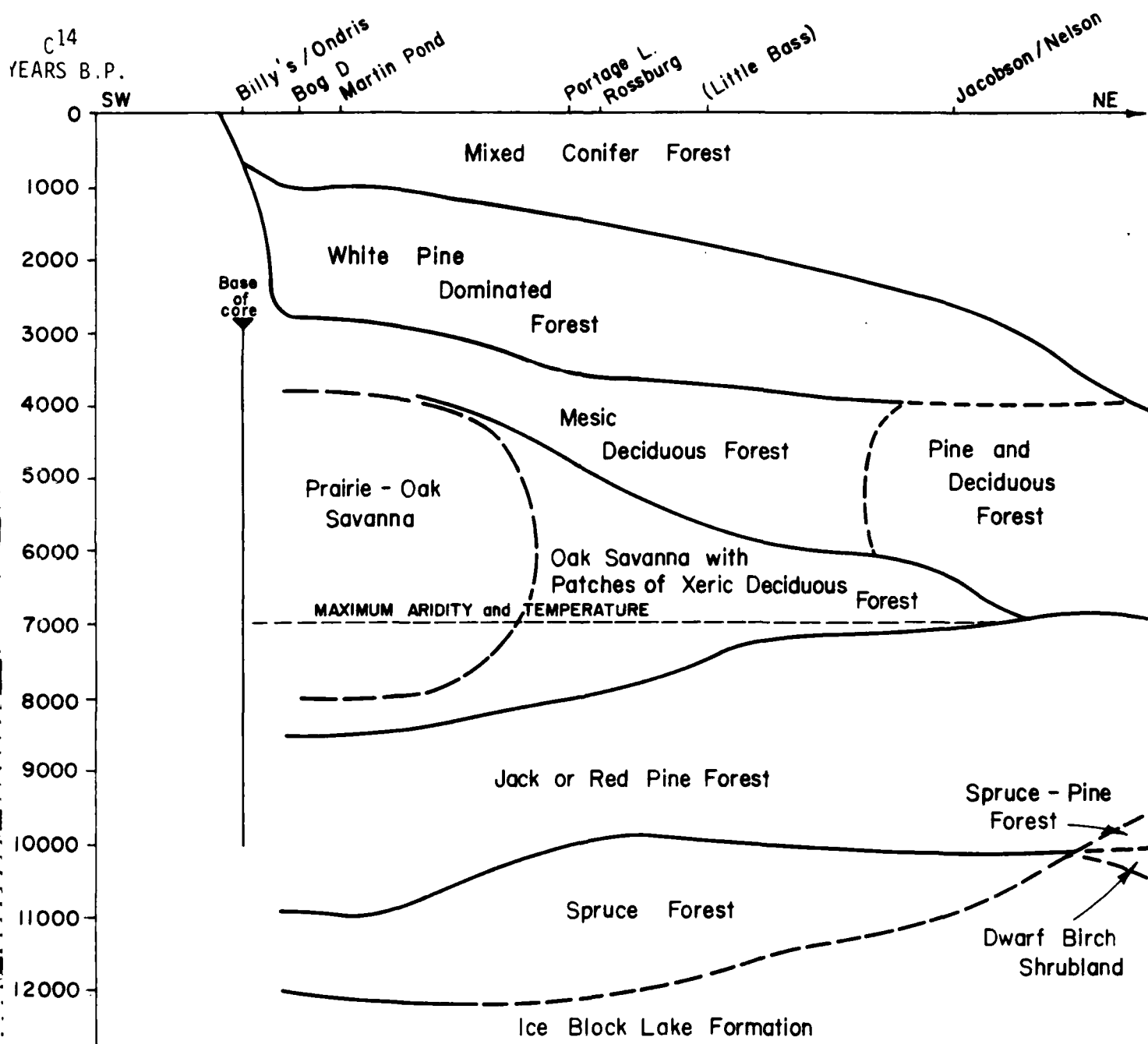


Figure 4.

The decline of the spruce forest in northern Minnesota began later and lasted longer. The pine forest was similar to pre-settlement cover except for the absence of white pine, and indicates an increase in annual temperature of 6.5° F. and 5" more precipitation compared with the earlier forest. Browsing animals such as mastodon, giant moose, peccary, giant beaver, woodland caribou and giant bison replaced some of the earlier megafauna. Modern species present were elk, deer, moose, beaver, black bear, wolf and muskrat (Cleland 1966).

As the climate became increasingly warmer and drier, the pine forest gave way to xeric deciduous forests, c.a. 8500 years B.P. in the northwest part of the headwaters region and probably slightly later in the Gull Lake region. In the area near Leech and Winnibigoshish the succession began about 7,300 years ago and roughly 500 years earlier at Sandy Lake. This xeric forest was dominated by oak and herbs with ironwood common. It was essentially an oak savanna with patches of xeric deciduous forests. The oak forest to the east, at Jacobson-Nelson Lakes, and to the northeast was short-lived in contrast to the central and northwest area where it persisted from 8500 to 3500 years B.P. The southeastern area of the watershed was probably in the xeric pine and oak forests ecotone, which was in equilibrium between 6500 and 4000 years ago.

During the time of maximum temperature and aridity between 8000 and 7000 years ago, those areas of the headwaters region nearest the prairie-forest border were savanna, with oaks surviving locally in fire breaks (lake shores and rugged topography). The Leech-Winnibigoshish area may have been the northeastern limit of the savanna. Elsewhere, xeric deciduous forests persisted. Lake levels were significantly lowered and small, shallow lakes dried up at this time. A climatic reversal between 4000 and 3500 years B.P. replaced the savannas and xeric forests with mesic deciduous forests of oak, ironwood, birch, elm, and sugar maple. The modern faunal assemblage was probably established at this time. The cooler, moister conditions allowed the western migration of white pine into the open oak forests. White pine dominated the northeastern forests by 6500 B.P. and the southeast and north central areas of the basin by 3500 B.P. White pines reached the northwest by 2700 B.P. and did not migrate to the southwest (Gull Lake area) until 760 B.P. (Jacobson 1975).

Jack and red pine were also migrating westward at this time from their refuge in northeastern Minnesota during the thermal maximum. By 1000 B.P. they reached the white pine forests of the northwest and formed the pine-hardwoods forests which existed until the time of European settlement. Large peaks in grass pollen during this period may represent local populations of wild rice (McAndrews 1969).

It is recognized that over the past 4000 years there have been minor climatic fluctuations of alternating cool and warm episodes (Griffin 1960; Baerreis and Bryson 1965). They did not result in major vegetational changes but may have had significant impacts on specialized subsistence economies of prehistoric populations.

The final major change in postglacial vegetation occurred between A.D. 1830 and 1930 when the pineries of Minnesota were intensively logged over. Red and white pine forests were replaced by birch and aspen growths. Jack pine remained important, especially in the burned over areas.

As early as 1837, lumbermen were contracting with Chippewa bands along the St. Croix and Snake Rivers to be allowed to log and construct sawmills (Larson 1949). The lumber industry grew rapaciously as shown by the records of board feet passed

through the St. Croix boom: in 1851 and for the next 10 consecutive years, between 100 and 150 million board feet of logs were scaled. This quota was again reached yearly from 1865 through 1874.

Another major disturbance to the natural vegetation occurred beginning about 1850 when land clearing for cultivation commenced. By 1860, farm production was high enough to export produce, wheat being the most important crop. The agriculture and lumber industries formed a symbiotic relationship with the former providing cleared lands for cultivation and the latter producing the supplies which sustained the lumber crews for entire winters in the woods. Today, cultivated lands represent 5% or less of the overall land use in Aitkin, Itasca, Cass and Beltrami counties. Pasture and open land represent 10% or less of the land in all seven of the major counties of the drainage basin. Drainage of lands for farming was not extensive in this area; most of that effort was directed to the northern Beltrami county, northern Clearwater, and Aitkin county boglands.

Table 3

Land Use in the Counties of the Headwaters Region (Percent)

County	Forested	Cultivated	Water	Marsh	Residential	Pasture-open
Clearwater	60.2	20.9	2.9	6.7	.4	8.5
Beltrami	48.4	4.9	17.8	21.9	.6	6.0
Hubbard	69.7	16.3	6.5	1.4	2.2	3.6
Itasca	80.6	1.2	8.6	1.3	1.7	5.3
Cass	65.3	2.6	15.5	3.4	2.1	10.9
Crow Wing	60.3	8.4	11.5	2.6	10.7	5.8
Aitkin	65.1	5.2	8.1	9.4	1.3	10.5

(from Minnesota State Planning Agency prepared from aerial photos - scale 1:90,000 - for 40 acre parcels)

Before logging, the first indirect impact on the vegetation was through the large scale exploitation of faunal resources. Beginning in the mid 1600's with the French, fur trade remained important until the late 1830's. By that time, some species, such as the fisher and martin, were essentially exterminated within the state. Pelt records of the American Fur Co.'s northern outfit (northern Minnesota) and western outfit (upper Mississippi basin) illustrate the volume of trade. Between 1835 and 1838 both outfits combined collected the pelts listed: 36,000 deer, 4300 beaver, 1,200,000 muskrat, 38,000 marten and 6,800 bear (partial list and not exclusively from Minnesota posts, from Johnson 1969).

The combined impacts of the fur trade, logging and cultivation of previously forested lands exterminated many species and greatly restricted the ranges of those that remained.

4. Cultural Developments in the Headwaters Region

The Headwaters Reservoirs region is one of major cultural changes and reorientations, some of them paralleling those of the vegetational/climatic shifts described earlier. For convenience in summarizing these changing patterns and to facilitate categorizing archaeological/historical sites located in the survey, six sequential cultural periods are used here with three in each of the prehistoric and the historic eras. Prehistory here refers to that time period extending from the earliest evidence of human habitation to the beginning of the written record at the time of European intrusion. Evidence for the prehistoric era is gained primarily from archaeological data with ethnographic reconstruction and the analysis of mythology forming supplementary evidence. Data on the historic era is not confined to the written record. Particularly in the earlier phases of that era, that written record is quite inadequate and direct archaeological evidence is often the provider of primary data and is always a significant supplement in expanding the documentation.

The Scope of Work for this contract specified a literature search for the shoreline areas of the four surveyed reservoirs and in the general reporting requirements, that Scope (in section 3.06, b., and c) called for "A discussion of the regional cultural developments in their spatial and chronological dimensions--" and "A brief summary of the evaluation of previous archaeological and historical studies of the region, including the date, extent and adequacy of the past work as it reflects on the interpretation of what has been found in the project area."

This report section will therefore include the information required in the Scope of Work and as the Scope does not specify a separate literature search report, the results of the literature search are included in this section. References to documentary and published works used in the literature search are cited here but in addition to those accessible documents, the unpublished records of the State Historic Preservation Office; the State Archaeologist; the University of Minnesota Archaeology Laboratory; the Cass, Crow Wing and Itasca County Historical Societies; and the Cass, Crow Wing and Itasca County plat books and Register of Deeds records; and the Chippewa National Forest files were used. It is impossible to cite all of the personal contacts made with individuals in the course of this research but efforts were made to contact collectors, local historians, land owners and others who might provide information. Many of these individuals are cited in the acknowledgements section of this report. A special contract with a representative of the Leech Lake Reservation business office was provided by the Corps of Engineers to research records on reservation land utilization changes.

The culture historical classificatory system used here duplicates that followed in the report on the Lake Winnibigoshish Reservoirs (Johnson, Harrison, Schaaf 1977) and defines the Early Prehistoric period as that beginning at an unknown point in time in the very late glacial or early post glacial period. That date is probably not older than 10,000 years ago in this region. The period ends with the introduction of pottery technology and the construction of the first burial mounds which mark the beginning of Woodland culture. That end date for this period is again somewhat conjectural for the region, but in the Minnesota areas directly south of the Headwaters, Woodland culture begins sometime in the 1,000 to 500 B.C. range. A summary of the dates for these periods statewide can be found in Johnson (1978).

The Early Prehistoric period as a whole is very poorly known and its earliest phases are completely unknown in this region. The first direct evidence for human occupation in the Mississippi River headwaters region is that from the Itasca Bison Site excavations of C.T. Shay (1971). At that site, located in Itasca State Park, a hunting band used the site as a bison kill and bison processing site during the period of postglacial temperature maximum and a regional oak-savannah vegetation pattern. The Itasca site belongs in the Eastern Archaic culture and probably does not represent the earliest human habitation in the region. The earlier Paleoindian or Big Game Hunting culture which preceded the Eastern Archaic is known from surface finds of fluted and parallel flaked projectile points in areas to the south of this region and has been documented at the Browns Valley Site in Traverse County (Jenks 1937). Stoltman describes a series of lithic blades from the Rainy River region to the north and suggests that these may represent a culture of this early period (Stoltman 1971). East of the Headwaters region in the Lake Superior drainage basin, Steinbring (1974) defines a Reservoir Lakes phase in which lithic points from surface collections are typologically similar to Paleoindian Hell Gap, Eden and Plainview point types. This appears to be an early occupation phase, but there is almost no archaeological context so that inferences about subsistence, population size, and settlement pattern are impossible.

On the basis of the evidence from surrounding regions, Paleoindian occupation should be present in the Headwaters region. The initial spruce parkland vegetation and the subsequent prairie expansion would have carried a late Pleistocene megafauna attractive to Paleoindian hunting populations. It seems very likely that sites representing that occupation are located in situations that cannot be predicted on the basis of knowledge of locations of later prehistoric sites. As seen in the preceding section, there has been considerable change in the drainage pattern of the Mississippi River itself and it is probable that before the river flowed east to form Lake Winnibigoshish, it drained through what is now Leech Lake. It is also highly probable that these very early sites are located at much higher elevations and are not adjacent to present shorelines. The Duluth Reservoirs phase sites, for example, became known because dams created artificial lakes whose waters eroded shorelines to expose the early artifacts. At the time of the human occupation responsible for deposition of those artifacts, the camp or activity sites would have been at locations considerably above and back from the small watercourses. The camp sites of the Itasca Bison Site was also situated on a very high knoll located at some distance from the kill site in the lower valley. A combined geo-morphological-archaeological survey team systematically surveying inland areas of the region could well produce the first Paleoindian site data for the Headwaters region.

The later phases of this Early Prehistoric period are somewhat better known. The culture of this period is Eastern Archaic and is marked by a more intensive multiple resource utilization in subsistence and by the use of some native copper in technology. No excavations of sites of this later phase have been made at shoreline areas of the Headwaters Reservoirs but a component of the phase exists at the White Oak Point site excavated by Lloyd A. Wilford in the 1950's (Wilford 1959). The Lake Winnibigoshish shoreline survey also recorded sites of this phase with that at Williams Narrows (Johnson, Harrison and Schaaf 1977:99-100) the most significant. Collectors in the region have lithic and copper artifacts of this phase from localities on each reservoir, but the more numerous are from the Pokegama Lake reservoir and Gull Lake Reservoir. This fact may simply represent differential intensity in collecting, but the shoreline survey data collected here tends to confirm the greater eastern density.

The middle and late phases of this era hold particular research importance when approached from a cultural adaptation distributional posture. The Headwaters region is markedly influenced in climate and vegetation change during the period and its Pokegama -- Gull sub-areas seem to mark the eastern extremities of the prairie grassland expansion. Coexisting at this period at the Big Sandy Reservoir area and to the north there appear to be a series of cultures with a very different adaptive pattern focused on a mixed conifer-deciduous forest vegetation and associated fauna. Steinbring's work cited earlier, the Big Sandy Reservoir survey results (Hudak 1979), and the more northern Patrow Site (Neumann and Johnson 1979) offer suggestive clues to this variance in cultural adaptation.

The Middle Prehistoric period begins, as noted earlier, with the beginning of Woodland culture marked by the first use of ceramics and the beginning of the practice of the burial of the dead in earthen tumuli. Much more is known about this period than is known of the preceding, but great gaps still exist in the record. And again, despite the size and significance of the Headwaters lakes and the numerous prehistoric archaeological sites on their shorelines, an extremely small number of scientifically excavated sites exist. None have been excavated on Leech, or Pokegama reservoirs and the only excavations reported are the King and McAloon mounds (Wilford, Johnson, Vicins 1969:19-20) on the Pine River reservoir; the Gull Lake Dam and Langer sites (Johnson 1971; Neumann 1975) on Gull Lake; and recently mitigated Lake Winnibigoshish Dam Site (Johnson and Schaaf 1978). White Oak Point also has a component from this period (Wilford 1959). Cultures to the north and to the south are better described and analyzed. The Laurel culture which is in Minnesota centered in the Rainy River basin and the north-eastern Canadian shield area has received a great deal of attention. As described first by Wilford (1941) and subsequently developed and refined by Stoltman (1973), Laurel culture is a northern Great Lakes culture characterized by a very distinctive ceramic complex characterized by varieties of dentate stamp decoration over a smooth exterior surface on conoidal vessels, lithic projectile points that are long, side notched triangles, conical bone projectile points, wood working tools of beaver incisors hafted in deer antler tines, antler toggled harpoon points, and other distinctive artifacts. The Laurel subsistence mode involves utilization of large game (bison and moose), a variety of small mammals, and fish, particularly sturgeon. Laurel culture occurs in southern Manitoba and across southern Ontario, northern Michigan, and ultimately seems to blend into the Point Peninsula culture of New York state. It has, therefore, an east-west distribution centered north of the Great Lakes with the Minnesota-Manitoba sites at the western margins of that distribution. Laurel burial mounds are not numerous and tend to be either in mounds as at the McKinstry (Stoltman 1974) and Pike Bay (Wilford 1955) sites or in small groups as at the Smith Site (Stoltman 1973). The pattern stands in contrast to the more southerly Minnesota cultures of this and subsequent periods where burial mounds are frequently found in large clusters. While the Laurel -- and the subsequent Blackduck Culture -- mounds show this form, individual Laurels are frequently of much larger size than their more southerly counterparts. The Laurel pattern of repetitive burial at the same site over a period of years followed the pattern of enlarging an existing circular, conical burial mound at the time new burials were added. The Laurel mounds are thus cumulative or stratified, and this is again a practice that persists in many of the succeeding Blackduck mounds of the same northern regions.

Laurel has been dated through radiocarbon techniques as existing in the 200 B.C. to 600 A.D. time range. At this same time period, but perhaps beginning 400 to 600 years earlier, the central Minnesota area immediately south of the Headwaters region, is characterized by the Malmo culture. Malmo burial mounds are quite different from those of the Laurel Culture. While they are also circular

and conical, they tend to be quite small in diameter and very low. None that are cumulative or stratified have been excavated. The Malmo burial mode also differs in that most burials are secondary bundle burials placed in a shallow central oval pit covered with a grid of tree branches or sapling trunks. A fire at the edge of the burial pit was common and has frequently partially burned the overlying wood and sometimes the human bone. It frequently appears to be extinguished by the mound construction before it has completely burned. Malmo burial mound dates are not common but those reported extend from about 800 B.C. to 600 A.D. (Johnson 1964).

Malmo sites occur generally north of the Minnesota River to Gull Lake and from the east-central Mille Lacs Lake area west to the prairies of west-central Minnesota. They are located in deciduous, mixed-conifer/deciduous, and prairie margin vegetation zones and show considerably more artifact variability than the contemporary Laurel Culture. Malmo ceramics as represented at the Brower Site near Lake Mille Lacs (Gibbon 1975) show definite relationships in decorative mode and style with the Havana Hopewellian ceramics of central Illinois. No earlier ceramics have been found in either the Laurel or Malmo regions and the evidence at this time suggests that the larger Woodland Culture to which both belong is a product of cultural diffusion from the south and east into regions populated by Archaic peoples. There is certainly no evidence that either ceramic complex developed independently and very little to suggest an earlier use of burial mounds in those regions than in regions south of the Great Lakes.

The Headwaters regions poses a series of difficult, and at present, insoluble problems during this time period. While there are a very few scattered Laurel pottery sherds at sites located by the various survey teams, it is only at Leech Lake and at Lake Winnibigoshish and perhaps Pokegama Lake that there may be one or more actual Laurel sites. None of those reservoirs, however, have shown sites that can be identified as Malmo and it is only the Gull Lake Dam Site (Johnson 1971) that shows in its initial component a very thin scatter of Malmo sherds.

Private collections, this and previous reservoir survey collections and other survey data show the presence of net and fabric marked ceramics that have been groups into a category named the Brainerd ware (Lagenbeal 1978a; 1978b; 1978c; Neumann 1978). This ware designation is an expansion of a Brainerd net impressed pottery type named in the Gull Lake Dam site report (Johnson 1971). The archaeological context for this ceramic ware is almost non-existent and its chronological position is only partly understood. Its distribution is certainly concentrated in the Headwaters region and at Gull Lake it post-dates Malmo. It also appears to persist in time into the Blackduck culture (Lagenbeal 1978a). A pottery type is certainly not an archaeological culture and a ware composed of a series of related types cannot be used alone to define a culture. The Brainerd ceramics, however, suggest that the Headwaters region may have a distinctive culture contemporary with Laurel and Malmo and perhaps transitional in a diffusionary sense. So little work has been done, however, that any explanatory attempt now is highly speculative.

Whatever the cultural situation may be, the environment to which it was adapted had stabilized in drainage patterns, vegetation, fauna, precipitation patterns and seasonal temperatures. Except for the continuing westward migration of white pine, the environment of the region was quite similar to that present historically before the extensive logging operations of the Middle Historic period. Extrapolating from Laurel and Malmo cultural practices, the basic subsistence mode, small population size, seasonal movement of camp sites and the associated settle-

ment patterns were probably not markedly different from those of the very late Archaic cultures of the previous period. Those changes that did occur probably reflect an intensification of cultural practices previously present rather than any abrupt and significant change. Burial in mounds and the addition of pottery to the technological inventory loom large to archaeologists as markers, but in themselves may have been much less significant for the peoples of the region.

Sometime in the 500 to 700 A.D. time range, an apparently new cultural entity develops which is characterized by burial in elongated linear burial mounds and by net impressed ceramics of the Brainerd ware and dentate stamped ceramics named St. Croix stamped (Johnson 1971). This culture was first defined at the Gull Lake Dam site and is the major component at the Lake Winnibigoshish Dam site (Johnson and Schaaf 1978). Succeeding Malmo to the south are a series of cultures tied together archaeologically through a common burial complex that has been called the Arvilla Complex (Johnson 1973). The un-named culture of the Headwaters region has been interpreted as a more northerly variant of Arvilla but distinct enough to distinguish it from the classic Arvilla Complex (Johnson 1971). The cultures that share the Arvilla burial complex are poorly understood but that best described occurs in east-central Minnesota (Caine 1974). Lacking additional excavations in the Headwaters region, the definition of the cultural unit(s) there at this time period is impossible.

In the Rainy River region the Laurel Culture is abruptly succeeded by the Blackduck Culture, apparently without an intervening transitional cultural phase. There is no evidence for a temporal hiatus between Blackduck and Laurel and in fact, there are several significant cultural continuities between the two.

The Late Prehistoric Period is clearly marked in the Headwaters region by the distinctive early Blackduck and Kathio cultures. The period is marked by what is apparently a significant population increase, a subsistence pattern which begins to emphasize an intensive utilization of wild rice as a staple food, an increased utilization of prairie bison, an altered settlement pattern, and highly visible changes in artifact form. Of the latter, the ceramics change in decorative mode to cord wrapped stick and punctate, and in vessel form to rounded vessels with flaring rims. Lithic artifacts also change and the small, unnotched triangular arrow point is diagnostic of the period. These changes reflect contacts with the more southerly Oneota and Cambria cultures of southern Minnesota and with the Plains Mississippi cultures of the Missouri River basin to the west. These latter cultures are parts of the larger Mississippian agricultural cultures of the eastern United States and represent a series of cultures replacing the Woodland cultures over much of that area. The Kathio and Blackduck cultures of the Headwaters region lack agriculture, however, and exhibit more Woodland cultural continuity than they do Mississippian influence and for that reason are categorized as continuing Woodland cultures.

The Headwaters region, from data now available, is the core of the Blackduck distribution in Minnesota. The site from which Blackduck was defined as an archaeological unit was excavated by A.E. Jenks and Lloyd A. Wilford, University of Minnesota, in the early 1930's. The site lies on Blackduck Lake north of Lake Winnibigoshish and in the older archaeological method of nomenclature, was called a "type site". The work of these two pioneers moved from the Blackduck village site (21B11) to burial mounds at the Smith Site (21KC1) on the Rainy River (which also served as the Laurel "type site") a major Blackduck burial component was defined. Wilford summarized much of the evidence in his 1941 article which set out the first organized classification of Minnesota's prehistoric cultures.

Wilford's continuing work over a long period of time involved Blackduck site excavations at the Roseau Lake Site (21R01), (unpublished) the Osufsen Mound (21IC2) on the Bowstring River flowage, the Scott site (21CA1) on the Leech Lake River and the White Oak Point Site on the Mississippi River. Most of these data are summarized in his 1955 paper.

The Blackduck culture thus defined and described shows a rich inventory of stone and bone tools, a highly distinctive ceramic ware with multiple decorative motifs, a burial mound mode that is dominantly that of flexed primary burial with associated grave goods in circular and frequently cumulative mounds, and a range of habitation and activity sites. Of the latter, the most important and of a form seen for the first time in Minnesota, are wild rice collecting and processing sites. The Scott Site, radiocarbon dated at about 800 A.D. (Johnson 1964), is an excellent example of a site of this nature. Lying at the outlet of a major wild rice lake, it exhibits wild rice threshing pits, parching pits, and temporary camp sites used by the Blackduck populations seasonally during the harvest.

Blackduck sites to the north of the Headwaters region in the Rainy River drainage area are usually located in the same location as the preceding Laurel culture sites. In the Headwaters region, where Laurel is either very lightly represented or absent altogether, Blackduck sites are normally found at locations which do not exhibit any preceding Middle Prehistoric culture. Blackduck Culture also has a much wider geographic distribution than Laurel Culture and where Laurel is centered in the Canadian Shield physiographic region and the southern boreal forest vegetation zone, Blackduck is distributed through that same region but has its major density in the mixed conifer/deciduous forest area to the south. Blackduck also occurs in the Red River Valley of Minnesota, North Dakota and Manitoba where it is associated with a wet prairie vegetation zone. With this distribution in parts of three major biomes, Blackduck has a much more complex series of adaptive modes and strategies than the preceding Laurel Culture.

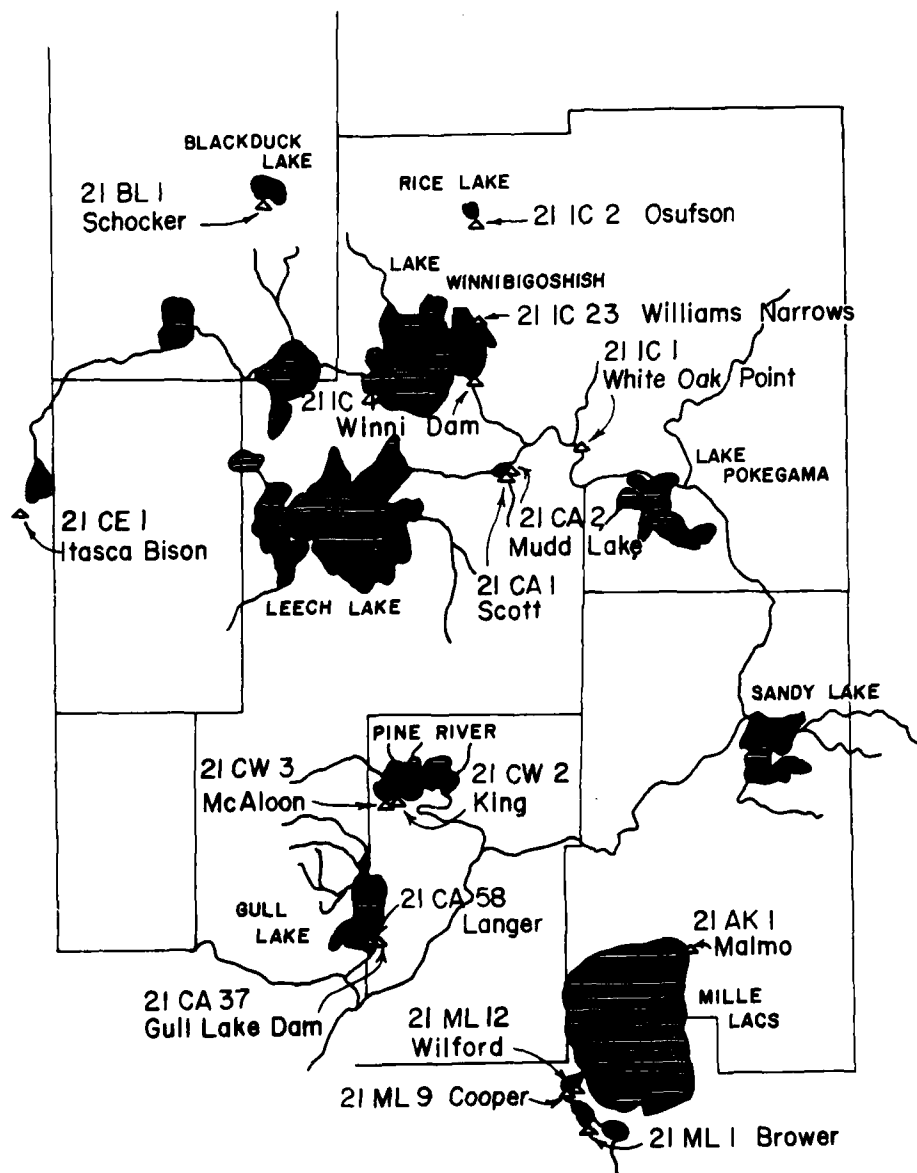
The Kathio Culture -- sometimes called a focus, sometimes a phase, and sometimes a complex -- extends to the Gull Lake and probably Pine River Reservoirs. It's core area, however, is in the east-central Minnesota area of Mille Lacs Lake whose sites were used by Wilford in his initial definition of Kathio (1941, 1955). Kathio ceramics are quite similar to Blackduck and in the total lithic and bone tools inventory, both are quite similar. The major distinction lies in the burial mound complex associated with Kathio. Rather than the flexed primary burials of Blackduck, Kathio burials are normally secondary bundle burials in very low conical mounds--mounds which are almost never cumulative.

The Kathio culture is much less clearly defined than is Blackduck and it is quite probable that when additional distribution data are in and when more detailed ceramic analyses are made, Blackduck and Kathio in Minnesota will be seen as a cultural continuum extending into northwestern Wisconsin.

The Headwaters reservoir sites, particularly those on Leech, Winnibigoshish, and Pokegama are dominantly Blackduck and are extremely important for future scientific investigation and public interpretation.

The termination of Blackduck and Kathio cultures appears to take place somewhere in the 1300 to 1400 A.D. range and is seen most clearly in the dramatic change in ceramics. A new ware with very little in common with either Blackduck or Kathio ceramics appears quite abruptly. This new ware has been called Sandy Lake

Figure 5. Location of Excavated Prehistoric Sites



(Cooper, Johnson 1964) and is characterized by a variant of vessel forms, cord marked and smooth exterior vessel surfaces, very little decoration, and the extensive use of shell tempering vessel construction. The ware was named from extensive ceramic collections made by interested amateurs at the Big Sandy Reservoir and at Leech Lake. No sites of this replacement culture have been excavated on Leech Lake or Pokegama Lake though numerous sites exist. A number of such sites were reported in the Lake Winnibigoshish survey (Johnson, Harrison, Schaaf 1977) and the excavated multicomponent Langer site on Gull Lake contains an excellent Sandy Lake component (Neumann 1975).

Except for the ceramics and the burial complex, the cultures represented by Sandy Lake pottery show considerable continuity with the preceding Blackduck and Kathio Cultures. The Sandy Lake sites are commonly at the same locations, the lithic and bone inventory is quite similar, the extensive wild rice harvesting and processing site are identical--and are frequently in the same locations. All of this indicates a very similar pattern of exploitation and subsistence in the same major physiographic and vegetation regions. The Sandy Lake burial complex is not known except for a site at Lake Mille Lacs (Lothson 1972) where primary extended burials and secondary bundle burials both occur in a low circular burial mound.

The Headwaters reservoirs sites reported in earlier surveys and those reported here are of major importance in defining the culture or cultures that succeed Blackduck and Kathio and because they are very late in time with even better artifact preservations, they also hold considerable promise for future public interpretation.

Whatever the culture or cultures of Sandy Lake ceramic associations, they are most probably associated with the Dakota tribal units known from the Early Historic Period. The Yanktonai Dakota-Assiniboin of northwestern Minnesota have a distribution throughout the region of Sandy Lake site at Leech, Winnibigoshish lakes, the Red River Valley to the west and north and the lower Rainy River drainage area. Heavy concentrations of Sandy Lake ceramics occur at the Big Sandy Reservoir Sites (Hudak 1979) in a region most probably occupied by the Sisseton Dakota at the period of first French contact. Similarly, the sites with Sandy Lake ceramics at Lake Mille Lacs coincide with the distribution of Eastern Dakota or "Santee" at that same early period. This fact of continuity of a late prehistoric archaeological complex with an ethnographically known historic population makes the public interpretation potential even higher. Prehistoric sites at present on the National Register of Historic Places in the large Headwaters-Upper Mississippi River drainage area include the Itasca Bison Site (21IC4), White Oak Point (21IC1), and the Turtle Intaglio (21IC26). The Lake Winnibigoshish Dam Site (21IC4) was determined to be eligible for the National Register when mitigation excavations were proposed, but the site is not yet on the published Register list. The Creech Site (21CA14) on Leech Lake, the Scott Site (21CA1) on the Leech Lake River, the Gull Lake Dam Site (21CA37), and the Langer Site (21CA58) have all been nominated for the National Register. The Creech and Scott site nominations have been approved by the State Review Board but the forms have not yet been submitted to the National Register office in Washington.

The Langer and Gull Lake Dam Site nominations forms have not yet been forwarded by the St. Paul District, Corps of Engineers.

Although the French were largely responsible for Ojibwa and Dakota displacement, they did not directly pursue the fur trade in the Mississippi headwaters area. In 1763 the British defeated the French in the French and Indian War in America (the Seven Years War in Europe). As a result the British gained control of New France. The British, through the North West and Hudsons Bay Companies, were the first Europeans to establish fur posts in the region being examined, particularly at the four lakes this report covers.

A number of British explorers and fur traders were in this area in the 1780's. John Baptiste Perrault, a fellow clerk, and their employer Alexander Kay traded at several locations. Hickerson relates that Kay and Harris established a post at Pine River in 1784-1785, and he notes, also, that there were three opposition traders present. (Hickerson, 1974: 76-77) Perrault and Harris went to Leech Lake where they traded with a band of Pillagers at Ottertail Point. They stayed only one day there, however. (Hickerson, 1974: 79) He says that later Perrault and another trader set up at Leech Lake and their trading partners did the same at Pine River. (Hickerson, 1974: 86)

There are a number of possible British period sites which Hickerson does not mention or mention with much detail that have been found in a series of literature searches on the four lakes being examined. Although no information was discovered, Gull Lake, Leech Lake, Pine River and Lake Pokegama are known to have sites on or near them.

Leech Lake

Leech Lake appears to have had the most significant concentration of trading establishments of the four lakes. North West Company posts are known to have been established at Ottertail Point and Mound or Squaw Point.

Douglas Birk cites William Warren (1852), Lewis and Clark (1804-1806), Henry Schoolcraft (1820) and Nicholas King (1805-1807) to substantiate the location of a North West Company post at Mound Point on Leech Lake. Warren says this post was established shortly after 1796 (Birk, 1970: 2) and Birk suggests this is the post indicated on Lewis' and Clark's map from the expedition in 1804-1806. (Birk, 1970: 2) Schoolcraft, in 1820, says there was an old North West Company house opposite of Goose Island and north of Pine Point. (Birk, 1970: 2, 15-16)* Pike, in February of 1806, visited a trading post of the North West Company which was about two miles northeast of the narrows and opposite Goose Island. (Birk, 1970: 40) King's map of Pike's journey says the North West house is situated at 47° 16' 18" N, but this measurement places the site too far north to be even near Leech Lake. (Birk, 1970: 21) Tamzin Brown cites this measurement as being 47° 16' 13". (Brown et. al., 1978: 22) The 5" difference is not enough to locate the post: close to Leech Lake though. The possibility of a fort being opposite Goose Island is supported by most of the evidence. The Cass County Independent, according to Brown, writes that a local man found " 'numerous remains typical of a fur-trade post' " in the shallows off shore from Mound Point. (Brown et. al., 1978: 23) Bradley Johnson's notes taken from Forest Service records at Leech Lake give the following coordinates for the post on Mound or Squaw Point: T-143N, R-30W, Sec. 18, Lot 11.

The references to the post on Ottertail Point are less well supported in the literature searches. Brown just points out that Grace Lee Nute, the Cass County Historic Records Survey, N.H. Winchell and the Minnesota Archaeologist refer to

* The text refers to a post on Ottertail, but the map indicates it is on the east side of Mound Point.

a post or house on the point. (Brown et. al., 1978: 22) Bradley Johnson's notes say the location of this post is at T-143N, R-30W, Sec. 14. (Johnson 1978: 7)

Lake Pokegama

Ewen's Literature search of the fur trade at Leech reveals one possible post near the lake. He notes what was believed by an elderly resident of Pokegama Lake - interviewed in 1942 - that the Hudsons Bay Company was the first British organization to have a post at this lake, but it was soon usurped by the North West Company which had a stronger interest in the area south of Canada. (Ewen, 1978: 1) Ewen says Pike's Narrative states the house of a North West Company trader, named Grant, was situated just south of Grand Rapids. (Ewen, 1978: 2) There appears to have been two British posts directly on Lake Pokegama.

Pine River

The Pine River has a known North West Company post site (21 CW-29). In his search of the literature, Robert Voegel writes that there are two North West houses on Whitefish Lake. Nute found, in Pike's journal, a reference to these houses, according to Voegel. On 22 February, 1806, Pike mentions that there is one post at the source of the Pine River which is still in use. (Voegel et. al., 1978: 1)

The American Phase 1816 to the 1850's

Hickerson relates that Pike had the British flag at a North West Company post on Leech Lake shot down, in 1805-1806, to signalize the control of the U.S. in this area. (Hickerson: 1974: 7, FN 2) However, the British remained in the area until the end of the War of 1812. The U.S. did not begin actively using the headwaters area until 1816, according to Hickerson.

The American phase of the fur trade witnessed the continued antagonism between the Ojibwa and Dakota, despite short periods of peace, and Indian-White relations began to diversify with the establishment of missions and agencies. As the Ojibwa became increasingly dependent upon White Artifacts the population of fur bearing animals was quickly depleted. The Ojibwa maintained villages at the various lakes, but had to venture further west into Dakota territory, to obtain the pelts they needed.

It appears that the Americans had posts on all four Lakes being surveyed.

Gull Lake

From the literature search undertaken by Carol Derby two posts appear to have existed at Gull Lake and both possibly belonged to the American Fur Company.

Site: American Fur Company Post -- possibly
 Location: T 134-135N, R 29W
 Time: 1820's - 1830's
 Personnel: Ambrose Davenport, Benjamin F. Baker, and a man named Aitkin.
 Comments: No mention of exact location.
 Source: Carol Derby, 1978: 2 and 8.

Site: American Fur Company Post -- possibly
 Location: T 135N, R 29W, Sec. 34, Lot.2.
 Time: 1820's - 1830's
 Personnel: Under the direction of Ambrose Davenport -- possibly.
 Comments: Derby says that the locations noted were "on Sandy Point--the west shore of Gull Lake, on the east shore near where the Saint Columbia mission stood. More precisely it was located where the Cinasan Store stands (stood) in 1946."
 Source: Carol Derby, 1978: 2 and 8.

Leech Lake

Site: South West Company house
 Location: One mile southwest of the Leech Lake River outlet.
 Time: Visited by Beltrami in 1823 and Nicollet in 1836.
 Personnel: Not known.
 Comments: When Beltrami landed in 1823 there was one man operating the post, in 1836 Nicollet states that it is the site of an old trading post, adding that it is in the center of a pine wood.
 Source: Birk, 1970: 3 and 9

Site: American Fur Company post.
 Location: Near the center of the NE 1/4, NE 1/4, NE 1/4, Sec. 14, T-143N, R-29W, Five Mile Point. In 1833 William Johnston notes that there is an American Fur Company trading house five or six miles from the mouth of the Leech Lake River, and adds that it is on a high point of land surrounded by Sugar maples and Red and White oaks. In 1834 the Reverend Edmund Ely states that the post of a Mons, Belcour is on a point four or five miles from the outlet of the Leech Lake River and opposite Ottetail Point.
 Time: 1810-1834, minimally.
 Personnel: Mons. Belcour.
 Comment: Douglas Birk and Ted Lofstrom, of the Minnesota Historical Society, found a fragment of blue transfer printed pearlware (and some old building depressions) at the point while examining a nearby project. They have dated the pearlware to 1810-1830 for this site. The maps accompanying Birk's and Lofstrom's report provide a clear picture of the location of the site.
 Source: Birk, 1970: 3 and 30; Birk and Lofstrom, 1977: 3.

Site: American Fur Company house.
 Location: Bottom of Traders Bay, close to Reverend Boutwell's mission.
 Time: 1833-1844, is the minimal time span.
 Personnel: William Davenport and Mr. Etienne.
 Comments: It is hard to pinpoint the location of this house, but it appears to have been to the west of Boutwell's mission, though not on Pine Point. In May of 1834 Ely visited Boutwell's mission and noted that the American Fur Company was across Trading Post Bay from Pine Point and six miles from Ottetail point. Boutwell's house and the American

Company post were close, but Lucy Lewis pointed out, in 1844, that the post can not be seen through the trees.

Source: Birk, 1975: 2 and 9.

Site: American Fur Company post.

Location: Pine Point.

Time: 1833-1834 are the only dates found in the evidence at hand.

Personnel: Mons. Bruny and Mr. Abott.

Comments: In 1834 Ely says he went to Pine Point with Mons. Bruny to the latter's post. He remarks that Bruny is a clerk for the American Fur Company, and his house is owned by the chief of the Ojibwa at Pine Point, about one mile northeast of his house.

Source: Birk, 1970: 4 and 9.

Site: William Johnston's cabin

Location: About one mile southwest of the tip of Pine Point

Time: 1833 is the only date associated with Johnston.

Personnel: William Johnston.

Comments: Johnston says " 'our trading house is pleasantly situated about one mile from the extremity of the point (Pine Point) amidst a grove of beautiful Norway and White pine, having a southern aspect; . . . And about ten miles from the Western Extremity of the lake.' "

Source: Birk, 1970: 29.

Pine River

Site: American Fur Company post.

Location: Whitefish Lake.

Time: Unknown.

Personnel: Unknown.

Comments: Robert Voegel cites Nute's statement that there was an American Fur Company post on Whitefish Lake, but no locations, dates or persons involved are given.

Source: Voegel et. al., 1978: 2.

Lake Pokegama

Charles Ewen notes that the American Fur Company took over from the North West Company, but it is a general statement without reference to a specific place or time. (Ewen, et. al., 1978: 2) There appears to be no posts located on Lake Pokegama.

Missions

The fur traders and missionaries were in conflict over a basic matter, although there are no specific references to open conflict in the material examined. The traders depended on a mobile Indian population to secure furs while the missionaries were trying to make the Indians sedentary. The earliest site locations for missions found in the literature searches examined were at Leech and Gull Lakes.

There are two seemingly different locations of the Boutwell mission site. Rosenbaum says the Cass County Records Survey and Theodore Blegen locate Boutwell's mission and school for Indian children at Stoney Point. (Rosenbaum, 1978: 9) Birk presents evidence of a different location. As mentioned earlier, Boutwell's house was near the American Fur Post at the bottom of Traders Bay. (Birk, 1975: 2) Birk writes that Boutwell arrived at Leech Lake on October 3, 1833 and that

his mission lasted from 1834 to 1837. In 1838 George Bonga was taking care of the mission while Boutwell was away. Boutwell did not come back, however, (Birk, 1975: 3)

The Oberlin Band of Missionaries occupied the same site in 1843. Lucy Lewis, one of those present there in 1844, placed the location two or three miles from Stoney Point and six miles from Ottertail Point. Birk suggests that the Oberlin Band left Leech Lake in 1846 and that Bonga purchased the Oberlin site. The earliest reference of Bonga's ownership is in 1850, according to Birk. (Birk, 1975: 4)

The other mission site, which has been located and is on the National Register, is the St. Columbia Mission, school house and store. It is located on the northeast shore of Gull Lake. (T-135N, R-29W, Sec. 35, Lot 2.) (Derby et. al., 1978: 5) James Lloyd Breck established the mission in 1852, but he left in 1853 and went to Leech Lake to begin another mission. The site burned down in 1862. (Derby et. al., 1978: 5)

Leech Lake is the only lake researched which had a government Indian agency. The first agency was located on the east side of Agency Bay (T-142N, R-30W, Section 17, SW 1/4) in 1856 and remained there until 1899. In 1899 it was moved to the west side of Agency Bay (T-142N, R-31W, Section 13, Center of south 1/2). The Old Agency had a historic Ojibwa village associated with it. The agency had a common goal with the missions of trying to bring the Ojibwa to a sedentary way of life. The agency used a steamboat on which a plow and team was transported to the few good agricultural patches around the lake. Although some success was obtained for the most part the Ojibwa at Leech Lake subsisted primarily on wild rice and fish. (Anfinson, 1979: 2-3)

Summary

The American fur trade phase involved the intensification of efforts to obtain enough furs as the fur bearing animals were being rapidly depleted. The pursuit of the fur trade brought the Ojibwa into a chronic conflict with the Dakota and also left the Ojibwa in a precarious economic position. The American phase involved more than furs and fur traders but American missions and government agencies. These two groups tried to induce the Ojibwa to become agriculturalists, but due to poor agricultural land and cultural conflicts these attempts were not successful in the nineteenth century. By the 1850's furred game was "utterly depleted" from the headwaters region. (Hickerson, 1974: 195) The Treaty of September 30, 1854 set up reservations in the headwaters area, restricting Ojibwa movements further than they already had been. After the middle of the nineteenth century the fur trade continued to play a role, but it was significantly less than it had been. Other industries and developments were beginning to take place which brought a different economic base to the area.

The Middle Historic Period 1850-1920

Intensive Resource Use

The Chippewa land cessions of 1854 and 1855 opened the timber lands of the headwaters to lumbering speculation. The intensive resource use period is dominated by logging activities. Railroads and dams were built to accomodate the needs of the logging industry, facilitating quicker destruction of the pine forests.

Barbara Rosenbaum reports that at Leech Lake in 1848 Daniel Stanchfield was hired by a St. Anthony sawmill owner to examine and appraise the timber stands around Leech Lake. (Rosenbaum et. al., 1978: 38)

An early dam was built at the exit of the Leech Lake River, but the builders of the dam are not known. Rosenbaum speculates that the dam was built by the government, although lumber interests may have built a dam at the same site earlier. (Rosenbaum et. al., 1978: 30) She notes that it was common for lumber companies to build dams to enable the floating of their logs to pick up points. (Rosenbaum et. al., 1978: 30)

Railroad connected Leech Lake with Brainerd, Cox Lake and Bemidji Lake as early as 1889. In 1895 Walker was joined with Brainerd by a railway built by the Walker and Akeley Lumber Company. (Rosenbaum et. al., 1978: 30)

At Gull Lake the Chase/Pillsbury partnership established a sawmill at Gull River Village in 1880. (Smith et. al., 1978: 10) A railroad was built to enable more productive harvesting of the lumber. Mike Smith states that by 1895 the Gull Lake was over harvested. (Smith et. al., 1978: 11)

The Pine River area offers the earliest evidence of logging operations. Cindy Acton and Anna Chilsen related that in 1863 a lumber road crossing Pine River along the shores of Cross Lake was in use. In 1881-1886 the Corps of Engineers built a dam across Pine River for logging purposes. Weyerhaeuser built a railroad also to facilitate the logging industry. And in 1890 the largest Minnesota lumber company of the last decade was formed and called the Cross Lake Lumber Company (21 CW-19)

There is also evidence for an early development of the lumber industry around Lake Pokegama. Jerry Lee states that "In 1868 the first logs from Pokegama were sent down the Mississippi River, and by 1872 there were 17 camps within a few miles of Pokegama." (Lee et. al., 1978: 1) A railroad was operating through Grand Rapids in 1880 and probably aided lumber production. Lee says the last log drive down the Mississippi River from Grand Rapids was held in 1918. (Lee et. al., 1978: 1)

The lumber industry was responsible for the second phase of the destruction of the natural environment in the headwaters region. First the fur trade led to the depletion of fur bearing animals and then the lumber industry almost destroyed the pine lands. The totality of the last event was prohibited by government action. In 1902 the Morris Act preserved pines on the islands of Leech Lake, and in 1908 the Minnesota National Forest was formed, having its name changed to the Chippewa National Forest in 1928. (Rosenbaum et. al., 1978: 39) It appears that most of the profits of lumber industries was not reinvested in the headwaters area. After the boom of the intensive resource use period the economic base of the headwaters area shifted again.

Although homesteading encouraged white settlement of the headwaters area not many were taken out and few of these were improved. In the Pine River area the state and Northern Pacific Railroad controlled most of the lots around White-Fish Lake. (Hilchery et. al., 1978: 12) In Itasca County, the county in which Lake Pokegama is located, only 1% of the land was cultivated as of 1910. (Schluter et. al., 1978: 3) In 1864 the Gull Lake reservation was ceded and the Ojibwa there removed to White Earth Indian Reservation. Homesteading does not seem to have been of major importance here. (Vincent et. al., 1978: 15)

The literature search concerning homesteading at Leech Lake turned up no information. From these records and reports from the four lakes researched here, homesteading does not seem to have been of significant importance, although a further examination of Indian-White relations is needed to support such a statement.

The Ojibwa during this period lost much of their land to cessions and allotment. The Ojibwa at Leech Lake maintained control over most of their lands, but could only live at low levels of subsistence off of it. The last period examined here, 1920 to date, is a period in which the economic base of the headwaters is stabilized, but at a relatively poor level.

The Late Historic Period- 1920 to Date

Resorts and Recreation

As the evidence presented indicates, logging peaked in the second decade of the twentieth century. Those homesteads taken up were sold or abandoned by or after 1920. The fur trade and lumber activities had flourished and through lack of conservation measures destroyed themselves; farming was attempted but was never successful because of the short growing season and poor soil for agriculture. The most recent and most stable economic activity of the region being examined is the resort business. Camps and resorts were being established before the turn of the century, but their most important growth occurred after 1920. The recreation industry depends on summer activities and is characterized by private resorts. This industry has replaced the previous ones and appears to be the most stable. Early examples of this major economic and settlement trend exist on all reservoirs and the State Historic Preservation Office is now engaged in an evaluation of representative sites and properties that may qualify as nominations to the National Register of Historic Places.

Examples of such sites and structures on Leech Lake are the Chase Hotel in the city of Walker and the sport fishing concessionaire structures located on Corps owned lands at the Leech Lake Dam. The most significant remaining early resort on Gull Lake is the Grandview Lodge. Much detailed research and evaluation is now underway by the State Historic Preservation staff.

The Gull Lake Reservoir

This shoreline survey was conducted under subcontract with Hamline University with Professor Christy A.H. Caine directing the project, Jan E. Streiff directing the field operations, and using Hamline students as members of the survey crews. The work began in the spring of 1978 when intensive field work was done, but continued intermittently during the summer and fall months as laboratory analysis suggested the need for further field checks.

The survey was a reconnaissance survey of the shoreline and consisted of walking the entire shoreline area checking for visible evidence of sites in the form of surface contours or artifacts. This was usually done in teams of two investigators who walked the immediate shoreline and traversed the 50 meter inland area in a zig-zag pattern. In cases where sites had been reported in the literature or by local informants particular effort was made to verify this information and this sometimes involved subsurface testing. Tom Grones, assisted by five divers, conducted an underwater archaeological search in selected areas.

Gull Lake is a natural lake which was dammed at its outlet, the Gull River, in order to store water and improve navigation on the Mississippi River. However, because of the dense recreational use of this lake, the water level is held fairly constant, between 6.0 and 6.25 feet during the summer. During the winter the reservoir is lowered to provide storage capacity for the spring runoff (CES 1973). Consequently there is very little evident erosion along the shoreline. Corps of Engineer's maps from 1894-95 show very little change in the shoreline due to lake level changes.

Gull is probably one of the most intensively developed lakes outside of the metropolitan areas of the state. Almost the entire shoreline has been developed and is now covered by cottages, homes, and resorts. Although extensive recreational use of the lake began in the early 1900's, the last surge of development has been during the 1960's and early 1970's, and this has insured that, outside of some lands which are part of the Pillsbury State Forest or are held by the Corps of Engineers, few feet of shoreline have escaped modification. The significance of this as regards the importance Corps owned lands near the Gull Lake Dam is considerable and will be dealt with in the recommendations section of this report.

Three separate parcels of Corps of Engineer owned lands lie on the Gull Lake Reservoir shorelines. Two of these are at the Gull Lake outlet and dam and both have been intensively tested, excavated, and reported. The Gull Lake Dam site was excavated by Elden Johnson and a University of Minnesota party and the report published as noted earlier. This area is now protected by a fence and lies adjacent to the public use area on the east side of the dam. The public use area was tested at the time of the original site excavations and found to be free of significant cultural resources.

The second area at the dam site lies west of the dam on a small peninsula extending into Gull Lake. This entire area was tested first by Christy A. H. Caine and a University of Minnesota field party and more intensively excavated the year following by Thomas Neumann and a second University of Minnesota field party. The report on those excavations was cited earlier in this report and while the excavators noted that concentrations of prehistoric and historic cultural remains are

present in scattered localities within the area, there is a thin scatter of materials over the entire area and the previous recommendation that no alteration or development of the land be undertaken with mitigation holds here. It was also noted in the preceding section of this report that both the Gull Lake Dam Site and the Langer Site are suitable for nomination to the National Register of Historic Places and nomination forms are being processed. One National Register of Historic Places site, St. Columbia Mission, lies on the northeast shore of Gull Lake. The site is not endangered by erosion.

The third area on Gull Lake is the small parcel of land, noted in the Scope of Work, that lies on Nisswa Lake. This parcel is entirely marsh and shows no evidence of the presence of cultural resources.



Figure 6. General View of the stable shoreline characteristic of Gull Lake.

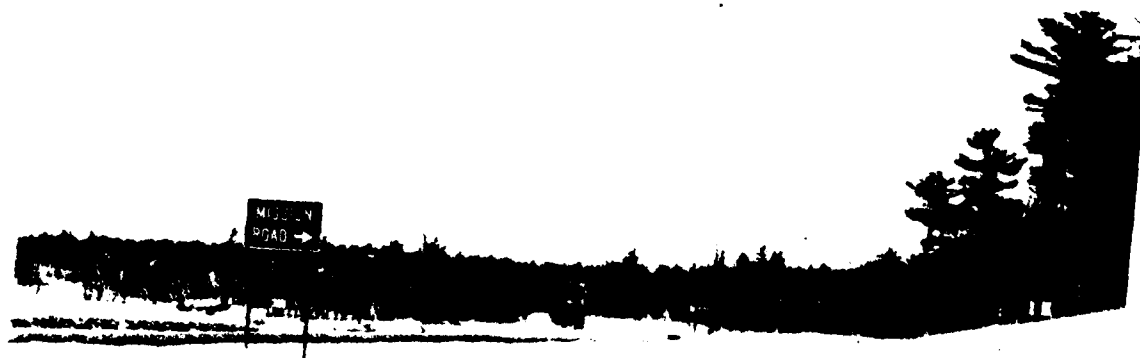


Figure 7. Portion of Round Lake Mound Site (CA40) destroyed by highway

Site Number: 21 CA 6

Name: Ebert Field Site #12

Location: See Volume 2

Description:

This site is located on the north end of Upper Gull Lake, just east of bridge over Spring Creek and just north of county road #29 (Cass). Dense wooded and open grassy area overlooking Upper Gull to the south. Edged by swamp on the north and stream on west. East end of site area is high hill rising to 20 meters above lake. Mixed deciduous trees with hazel on marsh side. Open lawn with cabin.

Ownership: private

Cultural Affiliation: malmo(?); Blackduck

Collections: private; Hamline, UM

Material List:

- 1 granite grinding stone
- 4 pieces quartz shatter
- 1 chalcedony shatter (from 78 survey)

Discussion and recommendations:

This important site was brought to the U's attention when a county road on one edge of the site was to have been realigned. The burial mounds and parts of the habitation would have been destroyed as a U crew determined by testing a small portion of the site.

While more testing is definitely called for to determine the boundaries of the site, it appears from the preliminary work done and based on the extensive collection of the landowner, that this site is probably eligible for the National Register.

Site Number: 21 CA 37

Name: Field Site #2

Location: See Volume 2

Description:

This site is located in the area to north across road from Corps of Engineers' camp ground, Gull Lake. Area is continuous part of 21 CA 37 (Gull Lake Dam Mound Site) with county highway bisecting the site. This north portion has been bladed at least twice with at least one mound being destroyed. Area has been tested in the past. Material picked up from this survey was surface material; no known features still exist. Area is still being planned for Free Primitive Campground.

Ownership: U.S. Army Corps of Engineers, St. Paul District

Cultural Affiliation: Malmo; Brainerd and St. Croix ceramics

Collections: U of MN; Hamline U H6-1

Material List:

- 1 net, grit body sherd
- 2 cord, grit body sherds
- 1 smooth body
- 1 dark chert flake
- 1 chalcedony flake
- 1 chalcedony blade
- 1 quartz flake
- 1 large quartz nodule
- 1 burned bone fragment

Discussion and recommendations:

This north portion of CA 37 has been totally destroyed. No additional work is recommended.



Figure 8. General View of the Gull Lake Dam Site (CA37).

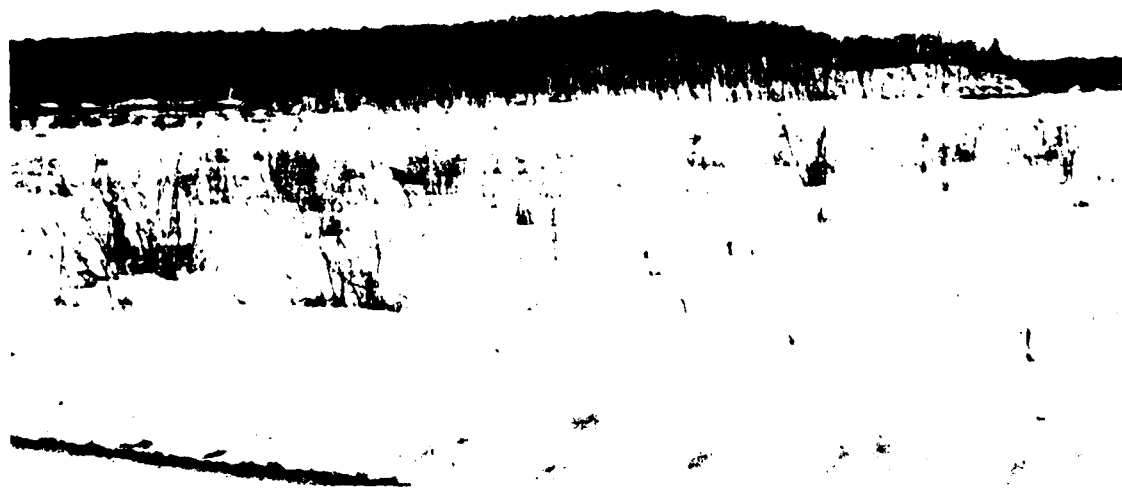


Figure 9. General view of the Langer Site (CA58).

Site Number: 21 CA 40

Location: See Volume 2

Name: Round Lake Mounds Field Site #9

Description:

This site is located on either side of Mission Road between Gull and Round Lakes (at Tall Timbers). First rise above Bishops Creek. Winchell reported large concentration of burial mounds. Owner reported that when 371 was 4 laned, dozers uncovered masses of bone from in front of her house and across Mission Road and to the south of her. One sherd was found in the backfill of a new sewer line next door. Area is mostly lawns now, with mature mixed deciduous trees.

Ownership: private

Cultural Affiliation: Woodland and historic

Collections: Hamline University H6-7

Material List:

- 1 fragment historic pottery
- 2 undecorated body sherd, grit-tempered

Discussion and recommendations:

The site has both a prehistoric and historic component. The small sample is not diagnostic of phases within either major period, except that the prehistoric component is of the Woodland Culture and the historic component is post-Ojibwa occupation and may be associated with the lumbering activities.

With the burial mounds having been destroyed by the highway construction, the only additional work to be done on this site is to test for a habitation associated with the mounds. Although much of the area has been disturbed by road and house construction, there should be large areas of undisturbed areas between Mission Road and the slope down to Bishops Creek.

Site Number: 21 CW 42

Name: Field Site #6

Location: See Volume 2

Description:

This site is located on the east shore of Gull Lake, north of Cinosam Park. On ridge approximately 3 meters above the lake; new house constructed in the area; sherd found on surface in construction area. Lot has been thoroughly cleared in the front of the house to the lake. Back area has some trees remaining; oak, elm.

Ownership: private

Cultural Affiliation: Woodland

Collections: Hamline University H6-5

Material List: 1 undecorated body sherd, grit-tempered, smooth surface

Discussion and recommendations:

The sample is too small to determine phase and period. The undisturbed area behind the new house should be tested to determine if anything remains of the site.

Site Number: 21 CW 43

Name: Field Site #8

Location: See Volume 2

Description:

This site is located on the east side of Gull Lake (west side of Hohman Point) in the St. Columba subdivision. Twelve rice jigs 100 meters back from the lake bluff. Bank here is 5 - 7 meters above the lake. Lawn with mature deciduous trees around the estate. This is next to (south of) the reported (by Zapfe) St. Columba Mission site.

Ownership: private

Cultural Affiliation: prehistoric and historic

Collections: Hamline University H6-10, H6-6

Material List:

- 1 quartz triangular point
- 2 unmodified flint flakes
- 3 small charcoal frags

Discussion and recommendations:

This potentially important site needs to have additional work done on it. More testing would establish whether there is an associated prehistoric habitation with the rice pits or whether the pits belonged to the period when the mission existed. Its eligibility for the National Register should be determined.



Figure 10. Historic rice threshing pits adjacent to St. Columba Mission (CA43).



Figure 11. Testing CA43 rice threshing pits.

Site Number: 21 CA 58

Name: Langer Site; F.S. #20

Location: See Volume 2

Description:

This site is located on Government Point on south side of Gull River as it flows out of Gull Lake. Expansion of site: narrow shelf on the south side of hill just west of gaging station. Tests produced much pottery, lithics, bone.

Ownership: U.S. Army Corps of Engineers, St. Paul

Cultural Affiliation: Late Prehistoric: Kathio Phase

Collections: U of MN; Hamline U H7-1

Material List:

- 17 cwp, grit body sherds
- 2 rims-Sandy Lake
- 4 smooth, grit body
- 5 frags mammalian long bones
- 7 frags mammalian long bones
- 2 quartz shatter
- 1 quartz flake
- 1 unmodified quartz flake with matrix
- 1 unmodified chert flake

Discussion and recommendations:

This corps owned site is in no immediate danger: there is no erosion on this side and there is no planned development. Additional work should be done in the future to establish its association with the rest of the Langer site. This site has been nominated to the National Register.

Site Number: 21 CA 109

Name: Field Site #1

Location: See Volume 2

Description:

This site is located on the southeast arm of the southwest part of Wilson Bay, Gull Lake. The area is a low terrace along the end of the bay. An old sand road follows the shore from the top of the peninsula around to a new group of houses on the southwest side of the bay. The shore is small pebble/sand, grass bank, and no elevation. The trees are mixed: poplar, some oak (small), some planted pines. Mound #1 is east of road and is 4.5 meters x 3.5 meters and is under 1 meter high. Mound #2 is on west side of road 220 degrees south southwest of mound 1. It is 4.5 meters x 3 meters and also under a meter high. Both mounds are in danger, as this area has been subdivided and staked for new houses. The mounds would probably be levelled to make accesses to the lake. To the southwest of the mounds were half a dozen possible rice pits.

Cultural Affiliation: Woodland

Ownership: private

Collections: none

Material List: none

Discussion and recommendations:

It is critical that the land developers be notified that these mounds exist. The lots should have, at the very least, an historic easement in the deed to protect the burials from destruction. These are the few remaining burial mounds at this end of the lake and they must be protected.

Site Number: 21 CA 110

Name: Field Site #3

Location: See Volume 2

Description:

This site is located on the point opposite Government Point to the north at the exist of Gull River from Gull Lake. The area is developed - cabins, owner has filled around buildings and in "playing field" behind the cabins. Used to find many artifacts in the road and near cabins, but hasn't picked up anything for some time. Lawns with basswoods, willows. Sand beach, no bank on south side; eroding area to west with boulders filled in by owner. 1 sherd found on the beach by boat ramp.

Ownership: private

Cultural Affiliation: Late or Middle Prehistoric

Collections: Hamline University H6-2-1

Material List: 1 undecorated body sherd, grit-tempered

Discussions and recommendations:

This is a difficult site to assess. The material found in the beach may have wasted over from the Langer site across the narrows. But the material found on the uplands by the owner establishes this as a site in its own right. Testing needs to be conducted to determine if any of the site remains, what its exact cultural affiliation is, and what, if any, association it has with the Langor site.



Figure 12. General view of site CA110.



Figure 13. Squaw Point Site (CA111) at right.

Site Number: 21 CA 111

Name: Squaw Point; Field Site #5

Location: See Volume 2

Description:

This site is located on Peninsula dividing main Gull Lake and Steamboat Bay, north of CE Dam. Long east/west peninsula on the south end of Gull Lake is a sand spit with only sparse vegetation on the end, a couple scrub willows, then lawn and large deciduous trees in the yard area. End of lawn area had recently been dozed-wind storm had blown down trees in year and debris had been pushed by dozer into a pile on the sand spit and burned. Material found in the dozed area. Divers were sent off the peninsula but no material found in the shallows.

Ownership: private

Cultural Affiliation: Sandy Lake

Collections: Hamline University H16

Material List:

- 1 granitic triangular-shaped rock
- 1 granitic grinding stone (?) with facet
- 1 chert projectile point, triangular
- 1 bifacially flaked side scraper (?), generally trianguloid
- 1 unifacially flaked snub-nosed end scraper, triangular
- 42 quartz flakes and shatter
- 23 chert flakes
- 2 agate flakes
- 5 basalt flakes
- 28 cord-wrapped paddled body sherds
- 2 exfoliated body sherds
- 3 crumbs
- 1 large mammalian scapula fragment
- 1 fragment mammalian mandible
- 10 fragments of mammalian long bones
- 10 fragments of unidentifiable mammalian bones
- 9 fragments mammalian bones; burned
- 1 small mammalian pelvic girdle
- 1 small mammalian mandible
- 1 mammalian lumbar vertebrae
- 1 small mammalian radius
- 1 metatarsal, whitetail deer
- 2 fragmented mammalian long bones with butcher marks

Discussion and recommendation:

Most of the site has probably been destroyed by raised water levels, wave action and development on the peninsula. However it is recommended that trenches be excavated bisecting the peninsula between the landowners lawn and the sand spit on the point to determine the character of the remaining site.

Site Number: 21 CA 112

Name: Field Site #10

Location: See Volume 2

Description:

This site is located on the southwest side of Dutchman's Bluff on the north side of Gull Lake. A 1-5 meter shelf runs along the shore at the base of Dutchman's Bluff. Deciduous trees in the area are not yet developed here nor on the upper terrace. The beach is pebbly with grass down to the shore. The bluff rises 3-10 meters. "Fernmont" is estate at top of bluff. Built in 1900. In 1934, while putting in pilings for a boat house, three skeletons were uncovered. One had 3 copper bracelets on the arm. One split, shell body sherd found by the crew behind this year's sand/ice ridge on the shore.

Ownership: private

Cultural Affiliation: Woodland

Collections: Hamline University and local collector and ? Historical Society in Brainerd, H6-4.

Material List: 1 undecorated shell-tempered body sherd

Discussion and recommendations:

The prehistoric component on the terrace below the bluff needs to be better defined. Testing is recommended for this area. The historic legends about this area, while currently unprovable, should be recorded in the files and an attempt made to establish or repudiate their authenticity.



Figure 14. General view of site CA112 showing severe erosion.



Figure 15. CA115 burial mound ridge.



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Figure 16. Site CA 116, lithic artifacts.

Site Number: 21 CA 113

Name: Field Site #11

Location: See Volume 2

Description:

This site is located on the north end of Gull Lake southwest of Shaffer's Point. Boulder beach rising sharply out of lake; high bank (to 7 meters). Owner's place on upper terrace in lawn. Lot to south also owners and in natural state; heavy brush and trees. Mounds in this area. Material found in eroding bank below house on way down to boat dock.

Ownership: private

Cultural Affiliation: Woodland

Collections: Hamline, private H6-3

Material List: 2 shell tempered body sherds

Discussion and recommendations:

Due to the erosion in this area, additional work should be conducted soon to determine the exact nature of this site. The mound, while they should not be tested, should be mapped and land owner encouraged to protect them.

Site Number: 21 CA 114

Name: Field Site #19

Location: See Volume 2

Description:

This site is located northeast end of Steamboat Bay, south end of Gull Lake. Low terrace has houses; several of occupants have found lithic artifacts on the point. First house has three points from there: one small triangular, one "short stubby side notched", and one unidentified. All found within 150 meters of house. Area tested but no other material found.

Ownership: private

Cultural Affiliation: Late Prehistoric

Collections: private

Material List:

Discussion and recommendations:

The area is heavily developed and landscaped. While any site which may have existed is probably destroyed, a few formal tests to the west of the house may reveal remnants of the site. These should be conducted before more development takes place.

Site Number: 21 CA 115

Name: Field Site #13

Location: See Volume 2

Description:

This site is located on extreme upper end of Upper Gull on small bay to the east of Spring Creek. Mounds (8) are located on southeast side of bay on the southwest facing slope of hill and down into valley. High steep hill to the north and high terrace to the south (where house sits). Area is grassy with mature deciduous trees. Point where house is has been badly disturbed.

Ownership: private

Cultural Affiliation: unknown

Collections: none

Material List:

Discussion and recommendations:

While no work is recommended on the mounds, testing should be conducted between the mounds to determine if there is an associated habitation.

Site Number: 21 CA 116

Name: Field Site #14

Location: See Volume 2

Description:

This site is located on the north peninsula at the channel between Upper Gull Lake and Bass Lake. Steep slope around entire bay, cobble/sand beach; oak, maple, birch. Resort on point-north side of channel. High ridge, flat. Lower terrace is 1-2 meters above the lake. Severe erosion on this south side of point. Much material falling out of bank; tree root exposed.

Ownership: private

Cultural Affiliation: Woodland (transition from Middle to Late Prehistoric)

Collections: Hamline University H21-1

Material List:

- 1 rim (small) H21-1-15
- 1 rim (small) H21-1-22
- 1 near rim H21-1-10
- 1 neck sherd
- 4 net impressed body sherds
- 1 cwp neck sherd
- 1 smoothed body sherd

Discussion and recommendations:

The assemblage belongs to an unnamed phase of the Woodland culture at the transition from the Middle Prehistoric to the Late Prehistoric Period. This potentially important site is in need of immediate attention due to the severity of the erosion. It should be considered for nomination to the National Register.



Figure 17. Cord marked and trailed line pottery sherds from site CA116.



Figure 18. Site CA120. Burial mound group located on ridge top.

Site Number: 21 CA 117

Name: Field Site #15

Location: See Volume 2

Description:

This site is located on point between Upper Gull Lake and Bass Lake on the Northwest side of channel. Point is high with a lower terrace near the lake. Material from the lower terrace. Many windfalls, much underbrush. Area has recently been staked for development with a new road running through and around the peninsula.

Ownership: private

Cultural Affiliation: Middle Prehistoric .

Collections: Hamline University H21-2-1 through H21-2-16

Material List:

- 3 net grit body sherds
- 1 large quartzite core
- 3 quartz flakes
- 3 chert flakes
- 1 small burned bone
- 2 unidentified stone

Discussion and recommendations:

The ceramics indicate a late phase of the middle prehistoric period, indicating this site is probably related culturally to the Langer site (21 CA 58). A base camp is suggested by the nature of the non-ceramic remnants.

The site is in immediate danger from development and steps must be taken to persuade the landowner to allow work in this site before it is destroyed. The site should be considered for the National Register.

Site Number: 21 CA 118

Name: Field Site #16

Location: See Volume 2

Description:

This site is located south of narrows of Upper Gull Lake, east side between Gull and Lost Lakes. Area had high terrace with a lower terrace running along the shore, material is on both upper ridge and lower terrace. Concentration seems to be on the south end of Lost Lake Lodge cabin area. Lawn around cabins and lodge with mature oaks.

Ownership: private

Cultural Affiliation: Middle or Late Prehistoric

Collections: Hamline H27

Material List:

- 4 quartz flakes
- 4 chert flakes
- 1 chalcedony flake
- 23 cord-wrapped paddled body sherds
- 2 net impressed body sherds
- 5 smooth body sherds
- 24 crumbs

Discussion and recommendations:

This potential register site, along with 21 CA 119, are very well protected by the landowner. However, the habitation area is being eroded and with the permission of the owner, this area should be tested before more damage is done.

Site Number: 21 CA 119

Name: Field Site #17

Location: See Volume 2

Description:

This site is located on east side of long narrows of Upper Gull Lake on ridge above marsh. Ridge is 30 meters above lake, shore bank, no exposure. Upper terrace is flat with the mounds spread out along the edge of the terrace. Mounds run for approximately 1/8 mile from hill above southeast bay to road into resort on north. Counted 20 circular mounds and 18 linear mounds. Largest linear is 20 meters long, 10 meters wide, 1 meter high. Largest circular is 7 x 7 meters. One linear is cut in half by road which runs from main road to old cabin site. Most mounds are intact, but some have burrows. Only two circular mounds have been potted.

Ownership: private

Cultural Affiliation: unknown

Collections: none

Material List: none

Discussion: This site appears to be one of the most intact burial mound groups in Central Minnesota. The owners are very protective of the site so there is no danger to the mounds. This potential Register site should be tested between the mounds for possible habitation and to determine its association, if any, with 21 CA 118.

Site Number: 21 CA 120

Name: Field Site #18

Location: See Volume 2

Description:

This site is located on the south end of Upper Gull Lake on a high "island" ridge above the Bay on the first point north of Swiss House on east side of lake. The ridge had an old railroad bed running from mainland out to island (pilings continue into lake and across to other side of lake). Lake on west, bay on south, marsh on north and east. Ridge rises to 15 meters above the lake; covered with oak and planted pine. Two mounds: one is on top, in center of ridge, is 10 x 10 meters x 75 centimeters high; second mound is down slope to the south and is 5 x 5 meters x 75 centimeters high. Area is in danger as there is a real estate sign on the south side of the island indicating the ridge is for sale.

Cultural Affiliation: unknown

Ownership: private

Collections: none

Material List: none

Discussion and recommendations:

It is critical that the landowner be notified of the existence of this site. The area is marked for immediate development and these mounds would be destroyed.

Leech Lake Reservoir

Leech Lake is the largest in surface area and shoreline distances of any of the reservoirs in the Headwaters region. It is also a reservoir with one of the greatest degrees of water level fluctuation. The large expanses of open water are subject to heavy wave action in periods of strong winds and water erosion from that source and the severe water level fluctuation combine to cause and prolong erosion on many exposed areas of shoreline.

The survey work on this reservoir was conducted by the University of Minnesota during the summer and fall of 1978. The active cooperation of officials of the Leech Lake Reservation Business Committee allowed and facilitated the work. Much of the summer of 1978 was a period of extremely high water which submerged many shoreline areas making survey extremely difficult. The summer was also marked by numerous severe storms with accompanying winds and high waves making it extremely difficult to reach many shoreline areas by boat and where land access by road or trail was not possible.

The research pattern in field followed that used in the earlier Lake Winnibigoshish survey and that followed by the field directors at the other reservoirs in this survey. Beach lines were walked and eroded materials collected from shallow water and exposed beach zones. Where materials were located in this fashion or where an open eroded upland bank showed materials in place, the inland areas were walked, and where possible, shovel tested. The survey began along lakeshore zones where sites had not previously been reported. The few previously known sites, all on the north side of the lake or on islands, were checked in the field where possible and as time allowed. Where this could not be done, an evaluation of erosional activity and damage and current vegetation cover was made using aerial photographic data.

The field survey was directed by Jan E. Streiff with the assistance of University of Minnesota undergraduates who had previous field school training and experience. Some assistance from Chippewa National Forest personnel was also important. A previous reconnaissance survey on an east-west transect across the northern edges of Leech Lake had been made by the University of Minnesota some years earlier. Data from that survey are incorporated in this report.

Some shoreline areas of Leech Lake are heavily developed for summer residences and tourist resorts and it was extremely difficult to obtain permission for inland shovel testing from private property owners. Lands owned by the Leech Lake Reservation were not shovel tested, but where sites occur on those lands, that fact has been brought to the attention of the Reservation Business Committee which has an ordinance in force offering protection to those sites. A considerable amount of land, around the perimeter of the lake is held by the Chippewa National Forest. That agency is engaged in its own Cultural Resources Inventory and it is important that information obtained on this survey be made available to those U.S. Forest Service personnel conducting the Chippewa National Forest inventory work.

Despite the private development on Leech Lake, the severe wave action and water erosion on some shoreline areas, a very large number of both prehistoric and

historic sites exist and in many the damage has been minimal. The heavy soils are in part responsible for this and the more sheltered bays along the north side of the lake add to the protection for some sites.

The sites located on this survey together with a discussion of the survey of the Corps owned lands are recorded on the following pages.

Site Number: 21CA7

Name: Bear Island

Description:

7 mounds, prehistoric habitation, historic village. Island is several smaller "islands" with marsh separating them. East side is sand shore, marsh; west is high banks - some areas severely eroding.

Ownership: U.S. Forest Service; Leech Lake Indians

Cultural Affiliation: prehistoric; historic

Collections: private

Materials List:

Discussion and recommendations:

This important and potential register site needs intensive testing. The severe erosion is destroying the sites rapidly and it is imperative, that immediate phase two work be started before any additional information is lost.

Site Number: 21CA10

Name: Field Site #6

Location: See Vol. 2

Description:

This site runs from the swamp on the west side of the point, around the point and up the east side of the section for nearly 1 mile. Site is only 25m wide, however, (or what remains of the site). Cabins on the south end; underdeveloped on the north. Enormous amounts of material. Boulder shoreline with a pronounced berm. Material coming out of the berm as well as in the lower area behind the berm. Reports from cabin owners that they have been throwing huge amounts of sherds into the lake from their gardens for years.

Cultural Affiliation: Multicomponent: Blackduck and Sandy Lake.

Ownership: USA in trust for the Indians. Several cabins; leased land.

Collections: U. of MN. 806-6 (1-16)

Materials List: 4 rims	1 decorated
3 decorated non-rims	1 lithic (proj.)
22 body sherds	1 body sherd
1 lithic flake	1 rim
7 body sherds	8 body sherds
1 decorated non-rim	10 rims
1 lithic tool	48 body sherds
1 lithic flake	1 bone

Discussion & recommendations:

This is a multi-component Lake Prehistoric site with both Blackduck and Sandy Lake represented. One stemmed projectile point suggests a possible earlier Middle Prehistoric component. Cultural depth suggests the probability that the site is stratified.

The site should be eligible for National Register nomination.

Most of this site is underwater and what remains is being eroded or developed. This extensive site (nearly 1 mile long) should be tested and mitigated before the entire site is washed away.



Figure 19. Site CA10
Top: Ogechie and Blackduck rims.
Bottom: left; Blackduck. center and right; Sandy Lake rims.



Figure 20. Site CA10, from public access road, showing slight bank erosion.



Figure 21. Site CA11 on Otttertail Point in background. Stable vegetated boulder beach.

Site Number: 21 CA 11

Name: Field Site # 19

Location: see vol. 2

Description:

This site is located on the peninsula area before crossing marsh out to the two "islands" of Ottertail Point, Leech. Shore is boulder with boulder/sand berm and a flat terrace behind it. Terrace is 10-4m wide with horsetail covering. Trees are basswoods. An upper terrace of 1m rises from the lower terrace. Upper terrace is flat and basswood covered. Underbrush is medium. Exposure is very poor; bank covered in moss. At the highest contour on the map before the marsh, a fresh exposure revealed historic material from a midden-like protrusion of the bank. Sherd found back from this in a burrow.

Cultural Affiliation: Late Prehistoric and Historic

Collections: U of MN 806-19 (1-3)

Material List: 1 body sherd
1 bone
3 historic (nail, glass, metal)

Discussion and Recommendations:

This site has both Late Prehistoric and Historic period materials. The historic period materials are late 19th to early 20th century objects but lack further diagnostic characteristics. The prehistoric materials are too few to assign to other than general Woodland culture.

This potential register Site has been mentioned in the literature as an historic Indian Village. Additional testing is needed before the continuing bank slumpage destroys parts of the site.

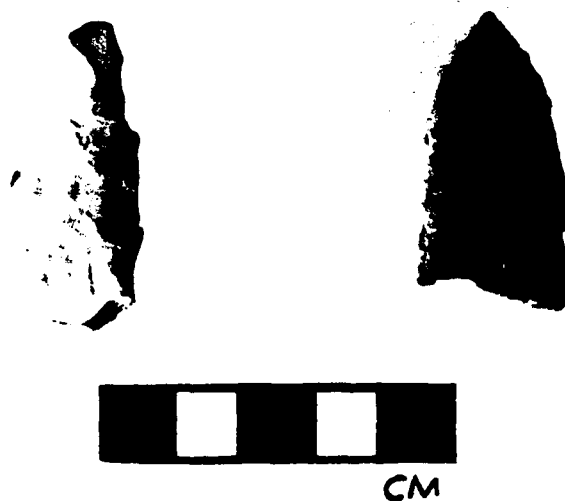


Figure 22. Site CA10 artifacts. Left, contracting stemmed point; right, broken bone perforator.



Figure 23. Site CA12 pottery rim sherds. Sandy Lake checked stamp, notched lip variety.

Site Number: 21 CA 12

Name: Field Site #4

Location: See vol. 2.

Description:

The site is located on Battle Point from marsh on east, around point to marsh on the nw. Leech Lake. Point is 3-4 m above lake; flat near shore, more rolling in the interior. Boulder shore, ash, maple. Heavy underbrush of vines, nettles, hazel. Upper terrace seems to be a continuous site. Material in burrows & eroding bank. About halfway north on west shore, land drops off apx 1 m, but still remains high. A "Midden" in this area is approximately 20 meters back from the shore.

Ownership: Leech Lake Indians, Cass Lake.

Cultural Affiliation: Sandy Lake, early Historic

Collections: U of MN 806-4 (1-16)

<u>Materials List:</u>	42 sherds	1 rim sherd
	1 lithic flake	10 body sherds
	2 rim sherds	1 knife
	body sherds	19 body
	8 sherds	7 bone (turtle)
	2 bone	1 clam shell
	2 metal	
	2 rim sherds	
	17 body sherds	
	2 lithics	

Discussion & recommendations:

This site is Late Prehistoric and the assemblage indicates a single component with Sandy Lake affinities. No Blackduck sherds are present in the assemblage. The six rim sherds and 113 body sherds are all Sandy Lake. The fragment of decorated "German silver" suggests a possible early historic association. If so, this site assumes major importance in establishing an ethnic group tie to a Sandy Lake assemblage. This ethnic group is most probably Yanktonai Dakota.

The site merits National Register nomination.

This is probably the most extensive, intact site on the east half of Leech Lake. Erosion is serious on the point and this area should be mitigated and/or protected. The remainder of the site is in danger due to proposed plans by the Leech Lake Indians to build an interpretive centre on Battle Point. Intensive testing is necessary to determine more exactly the extent of the site.

Site Number: 21 CA 14

Name: Creech Site

Location: See Volume 2

Description: Cobble/gravel sand beach, 50 cm rise to flat terrace. Maple, basswoods, little underbrush. Mounds, middens, rice pits. Scattered. Erosion on beach produces vast accounts of material in shallows.

Ownership: U.S. Forest Service

Cultural Affiliation: Late prehistoric multi-component: Blackduck and Sandy Lake.

Collections: UM 447, 702, 776

Material List: See previous collections numbered above.

Discussion & recommendations: This site is in an excellent state of surface preservation but is eroding badly at the shoreline. The site is one of the largest and most important prehistoric sites in northern Minnesota. Test excavations demonstrated positive Blackduck-Sandy Lake stratigraphy in a surface midden and collections from the eroding shoreline show a heavy density of cultural deposition. Data sufficient for nomination of the site to the National Register have been collected and the nomination has been approved by the Minnesota State Review Board but the recommendation has not yet been forwarded to the National Register office in Washington. This should be done immediately to protect the site.

Site Number 21 CA 15

Name: Field Site #29

Location: See Volume 2

Description:

This site is located to the extreme north end of Sucker bay, Leech on east side of creek inlet. From east to west: high terrace at resort (6 meters) with severe erosion; then undeveloped wooded area; drop in contour to two cabins. Bank erosion continues. Area around cabins is disturbed - appears to have been bladed (trees are on pedestals). Pedestals have material and areas back away from around house. From cabins west, sand spit with grasses and sand berm. No material. At end of point, about half way between last cabin on point and end of point on north side of trail, are two "bumps" which Wilford recorded as mounds.

Ownership: private

Cultural Affiliation: Blackduck and Sandy Lake

Collections: U. of MN 806-29 (1-5), private

Material List:

- 1 bone
- 21 body sherds
- 2 decorated non-rims
- 3 lithic tools
- 7 lithic flakes

Discussion and recommendations:

This is a Late Prehistoric Blackduck site which may contain other components.

The severe erosion along this shore merits additional work immediately. The site is being destroyed by erosion and the potential for additional development could remove what remains of the site.

Site Number: 21 CA 16

Name: Drumbeater's Landing Site

Location: See Volume 2

Description:

Sand beach - shelf extends 200+ meters out into bay. Shore sandy with willows and oak on higher ground. Peninsula is a narrow strip of land with bay on one side, marsh on other. Locals report thousands of artifacts picked up at low water.

Ownership: U.S. Forest Service; State of Minnesota; Private

Cultural Affiliation: Late Prehistoric

Collection: private

Material List: none

Discussion & recommendations:

This important site should be checked during a lower water level. There appears to be no site remaining that is on present high ground, so testing at this time is not recommended. If any of the site remains, it should be considered for register nomination.



Figure 24. Exposed sandy beach adjacent to site CA16.



Figure 25. Large bifacially flaked cutting tools from site CA29.

Site Number: 21 CA 19

Location: See Volume 2

Description: This site is located on the extreme S.E. Steamboat Bay, Leech on the west side of Squaw Point. Flat terrace, lower at the south end and sloping up to a 5 - 6 meter bank above the lake. Shore is sand; lower terrace 3 - 8 meters wide. No erosion. The berm which Wilford recorded in '39 and '52, which had the mounds on it, is now gone. Area has been leveled into lawns and cabins. Material in water from tip of point to 600 meters north along the shore. Also in gardens and any exposed areas. This is the old school site and garden and later dump in Wilford's notes. Material ends about half way between tip and the Old Home Resort.

Ownership: private

Cultural Affiliation: Blackduck and Sandy Lake

Collections: U of MN 806-33 (1-5)

Material List: 4 rims
2 dec + dy
71 body
2 lithic flakes

Discussion and Recommendations:

This is a multi-component Late Prehistoric Blackduck and Sandy Lake site. The soils and depth of the cultural deposit suggest the probability of a stratified site.

There appears to be no immediate danger to the site except through continued development. An extensive testing program should be started before additional landscaping and construction takes place. This potentially important site has been mentioned for a long time in the literature and by locals and should be considered for nomination for the register.

Site Number: 21 CA 23

Name: Field Site #32

Location: See Volume 2.

Description:

The site is located on the southeast shore of Steamboat Bay, Leech across from southern tip of Minnesota Island. Area has a 5 meter high bank, little or no lower terrace, boulder berm and nice sand beach. Bank is stable in grasses and shrubs. Material is from a road cut thru bank down to the boat ramp. Owner has found points on the beach in front of his place. Material may continue south to the Smith place as recorded by Wilford, but exposure poor and no material was found.

Ownership: private

Cultural Affiliation: woodland

Collections: U of MN 806-32 (1-2)

Material List: 3 body sherds
1 bone

Discussion and Recommendations:

The assemblage is so small that only its general Woodland cultural affinities can be ascertained.

More work needs to be done on this site to 1) determine its cultural affiliation, 2) to locate its boundaries, 3) to see what its relationship is to CA-19 and 5) to determine its eligibility for the National Register.

Site Number: 21 CA 24

Name: Sand Point

Location: See Volume 2

Description:

A long sand spit separated by marsh from the main land. Peninsula is only a few centimeters above the lake. Vegetation covering is willows, small shrubs (hazel), small deciduous trees. Material found along extensive beach and in shallows.

Ownership: private

Cultural Affiliation: Late prehistoric: Blackduck and Sandy Lake; Middle historic, unknown component.

Collections: private

Material List: Extensive private collections

Discussion and recommendations:

There is very little if any of this site remaining. It was almost completely inundated during the high water 1978 season. Local collectors find extensive amounts of material during low water, so if any additional work is to take place, archaeologists should wait until water levels drop.

Site Number: 21 CA 25

Location: See Volume 2

Name: Minnesota Island

Description:

This island in Steamboat Bay is marshy now with some higher "islands" of land, but predam it probably was dry. Material comes from along the shore and from eroding banks.

Ownership: private

Cultural Affiliation: Late prehistoric: Blackduck, Sandy Lake, Ogechie ceramics.

Collections: private

Material List: None

Discussion and Recommendations:

This site needs to be tested. Collectors have retrieved artifacts from both shorelines of the island and work needs to be done to determine if the island is one continuous site or several. Erosion continues to damage these sites.

Site Number: 21 CA 28

Name: Field Site #51

Location: See Volume 2

Description:

This site is located on the southeast side of Shingobee Island between Shingobee and Walker Bays, Leech. The island is high (10 meters) on the west side and slopes down on the east side. Whole island has been disturbed by several road construction projects. East side is a way side park of DOT. Severe erosion on this east side. Material eroding out of bank and at the fire ring area. Landscaped with trees and grass.

Ownership: Minnesota Department of Transportation

Cultural Affiliation: Middle Prehistoric and Blackduck

Collections: U of MN 806-51 (1-3), Minnesota Historical Society 138.

Material List: 1 bone
4 lithic flakes
10 body sherds

Discussion and recommendations:

A Middle Prehistoric period component characterized by net impressed pottery is suggested. The Highway Arch also found Blackduck sherds in the upper levels of his tests and a thick plainware in the lower levels.

The Highway Archaeologist, Les Peterson, conducted tests on the site after the UM crew identified the eroding site. This multicomponent site has been recommended for nomination to the National Register and the Highway Department has been asked to join with the Corps of Engineers to stabilize the severe erosion on the site and then begin discussion for possible future mitigation of the site.

Site Number: 21 CA 29

Name: Field Site # 49

Location: See Volume 2

Description:

This site is located on the east side of tracks on the section line, at outlet of Kabekona Bay into Walker Bay, Leech. Area has boulder/sand shallows, ice ridges & bank erosion. Whole area is badly disturbed, probably from railroad construction (railroad runs through here). Only vegetation is a few shrubs, grasses, and a couple small oaks on the ice ridge. Terrace is all sand and is 30 - 40 centimeters above the lake. Material found in the drive (sherds) and in the shallows (lithics).

Ownership: U.S. Forest Service in Section 4.

Cultural Affiliation: Prehistoric: unknown Middle or Late period component.

Collections: U of MN 806-49 (1-3); private

Material List: 4 body sherds
5 lithic tools
2 lithic flakes
2 lithic tools

Discussion and recommendations:

Material has been picked up here for years by local collectors. It is still yielding artifacts and a small scale testing program is recommended to determine if any part of the site is undisturbed.

Site Number: 21 CA 30

Name: Pelican Island

Location: See Volume 2

Description:

The island has high ground separated by marsh. Sand and boulder beaches connect the dry land. Mixed deciduous vegetation. Historic lodges reported on the island.

Ownership: private

Cultural Affiliation: Prehistoric and Historic

Collections: private

Material List: None

Discussion and recommendation:

The post dam lake level has probably inundated parts of the site on the island, but there remains enough high ground to warrant intensive testing to locate the historic lodges and to determine the prehistoric components. The site could have national register potential.

Site Number: 21 CA 34

Name: Field Site #31

Location: See Volume 2

Description:

This site is located on Beartrap Point (on one side of the narrows) across from Pine Point. (Also called Whipples Point). Much of area has been cleared-grasses and sumac; gradual slope down to point. On southwest side of point, bank develops (1 meter high). Some erosion, burrowing. Near lake, heavy underbrush, oak, aspen, basswood. To east of trail that leads to lake are four pits, each 3 meters across and from 50 centimeters - 1 meter deep, all in a 10 meter square area. Material found in a newly cleared area. To the west are 5 Chippewa graves: 3 house type, 1 concrete, 1 marble. Material on west side found along shore and on trail.

Ownership: Leech Lake Indians and U.S. Forest Service.

Cultural Affiliation: Blackduck, Sandy Lake, historic

Collections: U of MN 806-31 (1-10)

Material List:

- 1 dec body
- 15 body sherds
- 6 lithics
- 2 lithic tools
- 1 metal
- 6 glass

Discussion and recommendations:

This is a multi-component site with Late Prehistoric and Historic periods represented. The prehistoric assemblage is Blackduck and Sandy Lake. The glass from the historic component is not diagnostic so more precise definition of that component is not possible.

This important site needs to be tested to determine eligibility for the National Register. The erosion on the site is not severe, however testing should be conducted in those areas before the site is destroyed.

Site Number: 21 CA 35

Name: Field Site #43

Location: See Volume 2

Description:

This site is located on the east shore of Steamboat Bay, Leech, across from Minnesota Island. Informants had said this was near the old picnic ground. One area was once a clearing. One mound is west or lakeward from the clearing approximately 30 meters. Mound 1 is 4 x 3 meters and 1 meter high. It has a pothole in the top. Mound 2 is approximately 200 meters back from the shore (and due west of it). Mound 2 is southeast of the first about 100 meters and approximately 50 meters from the clearing. Much larger than the first being 10 meters x 6 meters and 1.5 meters high. It is unpotted but has an enormous animal burrow on the west end of it. Four other possible mounds are along the old road leading out of the clearing. These are all conical, less than 50 centimeters high and about 1.5 meters across. The whole area is in oak with much new poplar in the cut over areas.

Cultural Affiliation: Middle/Late Prehistoric

Ownership: U.S. Forest Service Cass Lake

Collections: U of MN 806-43 (1-2); private

Material List: 1 decorated non-rim
1 body sherds

Discussion and recommendations:

The site is Middle and/or Late Prehistoric of general Woodland Culture. The single decorated ceramic sherd is unusual in decorative pattern and is not diagnostic of any of the recorded ceramic wares of the region.

This site needs additional work to determine if there is a habitation associated with the mounds and to determine more precisely the cultural affiliation. The mounds must be protected from vandals who have already dug into one of them.

Site Number: 21 CA 36

Name: Field Site #42

Location: See Volume 2

Description:

This is located on the east shore of Steamboat Bay, Leech. Flat upper terrace, steep bank, sandy shore without boulders and shallows extending out 10-30 meters. Deciduous, confers with heavy underbrush. Materials eroding out of bank 1.5 meters above the lake. Also two large mounds. Ninety meters apart and 20 meters from the bank. In between is a cleared area with an old trailer house. The north mound is 13 x 14 meters and 1.5 high. Large hole in top and large oaks and poplars on it. South mound is 11 x 14 meters and 1 meter high. Behind this mound an old trail runs parallel to the shore. Exposure poor.

Ownership: private

Cultural Affiliation: unknown

Collections: U of MN 806-42 (1-2)

Material List: 7 body sherds
1 glass

Discussion and recommendations:

Neither the prehistoric ceramics nor the historic glass sherds are diagnostic for either the Middle-Late Prehistoric or Historic Periods. The site is multi-component.

Testing is recommended to determine cultural affiliation. Erosion of the site should be halted and plans made to protect the burial mounds.

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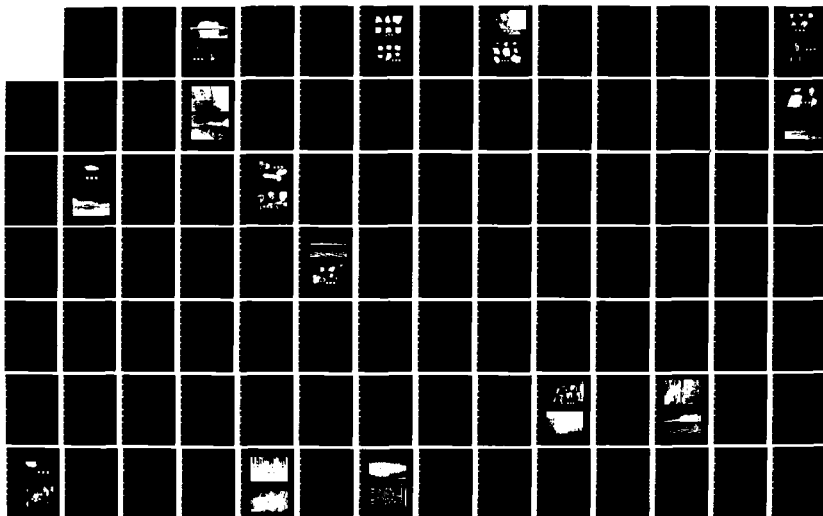
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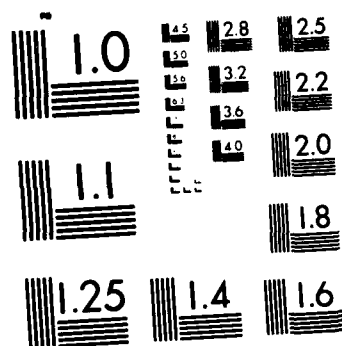
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Site Number: 21 CA 43

Name: Field Site #11

Location: See Volume 2

Description:

This site is located on the small island to the west of Waboose Point at outlet of Waboose Bay into Portage Bay, Leech. Small island between Ca 73 and CA 16 is a high, flat piece of ground covered with oaks and a shore of hazel and apple. Nettles on the dry banks, grasses in the shallows; low plants on the island. Material in abundance on the shore, in the shallows, and on the ice ridge bank. Test on island went to 120 centimeters and was still black humus; stopped because of water. Material to 80 plus centimeters. Island has a barbed wire enclosure around four trees in the center of the island. Old wood stove door was found, so island has been used recently.

Ownership: Indians Leech Lake

Cultural Affiliation: Middle prehistoric

Collections: U of MN 806-11 (1-7)

Material List:

- 31 body sherds
- 1 lithic
- 25 body sherds
- 2 decorated non-rims
- 4 lithic tools
- 7 lithic flakes
- 1 utilized core

Discussions and recommendations:

This Middle Prehistoric Period site has ceramics suggesting its occupation during the earliest Woodland culture of the region. The lithic core, waste flakes, and artifacts point to a base camp. Because of its probable early Woodland affinities, it needs intensive testing to determine National Register significance.

The island appears to be in no immediate danger. Although the bank erosion on the east side is causing some site loss. The enormous depth of the material deposit should be noted and plans to undertake a testing program should be considered in the future on this interesting island site.



Figure 26. Lower end of island site CA 43 from offshore.

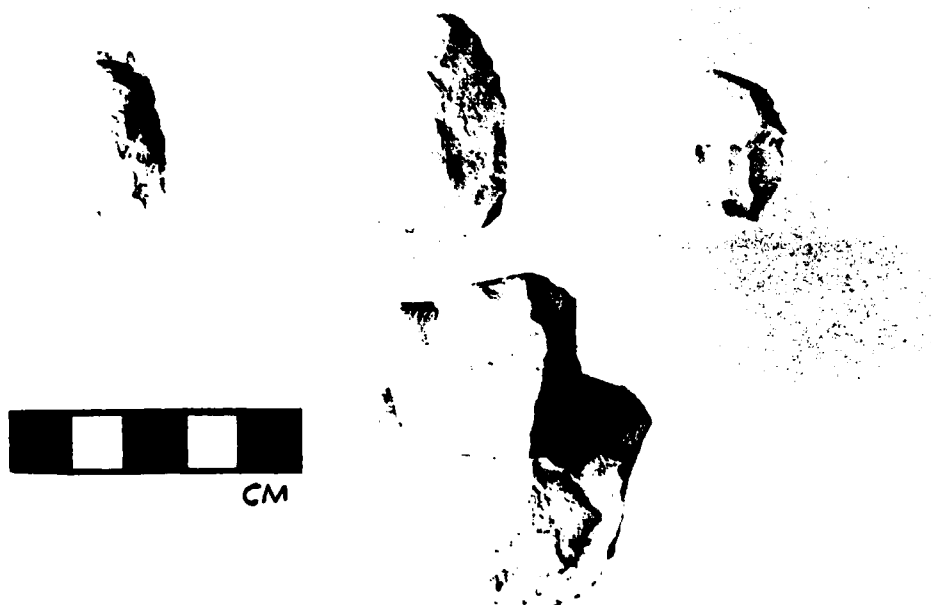


Figure 27. Lithic artifacts from site CA 43. Top row; left, triangular point; center, bifacially flaked knife; right, side scraper. Bottom: prismatic blade core remnant.

Site Number: 21 CA 45

Name: Field Site #35

Location: See Volume 2

Description:

This site is located on the Northwestern side of Sucker Bay, called Drumbeater point. Moving towards the point, the terrace becomes wide with little bank. Nettles and basswoods. Lawn closed to house. There's much disturbance on point-graded for house, filled in ditch to southeast of house, road filled and graded. The bank has been stabilized on lake side (1965) when 8' slumped away. Old stove and logging gear found there. Owner has buckets full of pottery and lithics from the yards and banks. I picked up nothing (no real exposure). but site has now been reported by four local collectors.

Ownership: private

Cultural Affiliation: Middle and Late Prehistoric: Laurel, Blackduck and Sandy Lake.

Collections: private

Material List: none

Discussion and recommendation:

The site needs testing to determine if any parts of it are undisturbed, an unlikely but possible situation. The banks have been stabilized so erosion is not an immediate threat.

Site Number: 21 CA 47

Name: Field Site #15

Location: See Volume 2

Description:

This site is located on the large point on the south shore of Boy Bay. Leech Lake (Blackduck Point). High well drained terrace. Boulder shore and berm; 2-5 meters wide lower terrace from shore to a 1.5 meter bank which slopes down from the upper terrace. The west shore or lake side of the terrace is higher than the north or east shores. The lower terrace is also wider on the west side. The vegetation is mature deciduous-maples, basswoods. Material was found up to 30 meters from the shore.

Ownership: private

Cultural Affiliation: Woodland

Collections: U of MN 806-15 (1-7)

Material List:

- 1 bone
- 18 rims
- 13 decorated non-rims
- 81 body sherds
- 8 rims
- 1 knife
- 40 body sherds

Discussion and recommendations:

The ceramics in this assemblage contain elements from the entire Leech Lake Woodland series. The Sandy Lake sherds include some with checked stamped surface treatment suggestive of plains influences. This is the only Leech Lake site in this survey that has definite Laurel Culture ceramics and may hold the key to determining the relationship between the early Laurel Culture and that represented by the net/fabric treated ceramic wares. The site is of extreme importance and needs intensive survey to determine its significance for National Register nomination purposes.



Figure 28. Site CA 47 ceramics. Top row: Sandy Lake shell tempered rims. Bottom row: Sandy Lake grit tempered rims.



Figure 29. Site CA 47 ceramics. Top row: 2 Blackduck rims; right, Brainerd net impressed rim. Bottom row: Laurel incised and stamped rims.

Site Number: 21 CA 53

Name: Field Site #12

Location: See Volume 2

Description: This site is located on the long Point on north end of Portage Bay and south of opening into Waboose Bay, Leech. Point and sand bar jutting out into Leech to the northeast. Point above water is sand with an ash and willow covering, nettles underneath. North side of point has an ice sand ridge with material washing out of an undercut bank. South side is sand and heavy reeds. Material ends about 200 meters back from the point on each shore. material continues out into the lake toward point which is under water but covered with reeds.

Ownership: State of Minnesota

Cultural Affiliation: Blackduck

Collections: U of MN 806-12 (1-4); private

Material List:

- 1 broken knife
- 2 rims
- 2 decorated non-rims
- 34 body sherds

Discussion and Recommendations:

This site appears to be a single component Blackduck culture site of the Late Prehistoric Period. Because Blackduck sites in this region are frequently multi-component with Sandy Lake phases represented, single component sites like this assume major significance in isolating Blackduck phases. The site is thus of considerable importance and needs intensive testing to determine its eligibility for National Register nomination.

It is imperative that this site, what remains of it, be intensively tested/mitigated before another season passes. Erosion is extreme with vast amounts of cultural material being washed into the lake at every wave.



Figure 30. Lithic artifacts, site CA 53. Top: Large flaked cutting tool with one grinding surface.



Figure 31. Top row: Site CA 70 ceramics; left and center, plain and net impressed rims; right, single twisted cord decoration. Center row: Site CA53 ceramics; left and center, Blackduck rims; right, Sandy Lake rim. Bottom row: Site CA 74 ceramics; water worn sherd, Blackduck rim with horizontal cord decoration.

Site Number: 21 CA 62

Name: Lego Site

Location: See Volume 2

Description: Pebbly beach, irregular shoreline with a wet, low terrace rising to 30 centimeters. Elm, ash, maple with nettle understory.

Ownership: Private

Cultural Affiliation: Blackduck (MHS)

Collections: Minnesota Historical Society

Material List: Minnesota Historical Society

Discussion and recommendations:

This site was visited in 1977 by Birk/Lofstrom, who were checking a proposed marina to be built south of this site. The site is in no immediate danger from development, but continued erosion and raised water levels are destroying the site. Testing should be undertaken as soon as possible.

Site Number: 21 CA 63

Name: Five Mile Point Trading Post

Location: See Volume 2

Description:

Boulder shore, berm, marshy and wet shoreline. Slight rise to terrace. Undulating ground surface, immature maple, ash, elm and nettle understory. Post is on rise before ground drops into marsh on east.

Ownership: private

Cultural Affiliation: American Fur Company Post (1830's)

Collections: Minnesota Historical Society

Material List: none

Discussion and recommendations: See 21 CA 62

Site Number: 21 CA 66

Name: Field Site #1

Location: See Volume 2

Description:

This site is located on the large island on north side of Uram Bay. Leech Lake. The island has a boulder shore; narrow shelf behind boulders, then a bank of 10 meters to the terrace on top of the island. Nice maple covering with little underbrush. Rice pits on north side of the island. South side is eroding -- pottery and fire, cracked rock found in erosional area. Original shoreline maps show south tip of the island extending another 50 - 100 meters out into the bay.

Ownership: Private (see volume 2)

Cultural Affiliation: Sandy Lake and Blackduck.

Collections: U of MN 806-1 (1-6)

Material List:

- 3 rim sherds
- 4 body sherds
- 7 split bodies
- 5 lithic flakes
- 4 debitage
- 3 burned bone

Discussion and recommendations:

The assemblage from this site includes both Sandy Lake and Blackduck ceramics from the Late Prehistoric period. Fire cracked rock and charred mammalian bone suggests a habitation site.

The site needs to be intensively tested. The erosion is not extreme, but the slumpage of the humus level (i.e. cultural level) is serious. The land owners seem very cooperative and have no immediate plans to disturb the site. Since this is one of the few sites on the southside of Leech Lake, additional work is recommended to determine the extent and nature of the site.

Site Number: 21 CA 67

Name: Field Site #2

Location: See Volume 2

Description:

This site is located on the eastern point in Uram Bay, Leech; southeast of island 1341 (Smokey Point) Lot 7. Boulder shore; reeds in shallows. Area has been recently dozed for a garden. Land apparently is leased to the people who have a cabin on the land; their name is not recorded in the court house. Thin scatter of Brainerd Net and flakes.

Ownership: Leech Lake Indians, Cass Lake, MN

Cultural Affiliation: Middle Prehistoric

Collections: U of MN 806-2 (1-4)

Material List: 2 rims
9 body sherds
1 knife
12 lithics

Discussion and recommendations:

Most of the site seems to have been destroyed by the blading of the garden. No tests were put in as the garden had been planted. This site should be tested to determine if any of the site remains and what its relationship is to CA 66 and CA 68.

Fabric, net and smooth surface treatments on the ceramics indicate a Middle Prehistoric period occupancy. Diagnostic ceramic rim sherds are absent. The lithic core, waste flakes, abrader, knives and scrapers suggest a food processing site.



Figure 32. Site CA 67 artifacts. Top row: Net impressed and cord marked sherds. Bottom row: fragments of a trade metal ornament.



Figure 33. Site CA 67 lithic artifacts. Top: Prismatic blade core remnant. Bottom row: left to right, spoke shave, flaked knife, flaked knife base of bone awl.

Site Number: 21 CA 68

Name: Field Site #3

Location: See Volume 2

Description:

This site is located on the Southwest piece of high ground in Uram Bay, Leech; south of Island 1341. Area is marshy in front to cabins to the point. Narrow terrace behind boulders and reeds. Material in the shallows and in uprooted tree on the terrace and in trowelled bank. Area is stable with little chance for erosion.

Ownership: State of Minnesota

Cultural Affiliation: Middle Prehistoric

Collections: U of MN 806-3 (1-4)

Material List: 2 lithic flakes
2 lithics
17 body sherds
3 lithic flakes

Discussion and recommendations:

Ceramic body sherds with smooth, net, and fabric surface treatment place this site in the Middle Prehistoric period. There are no diagnostic artifacts to further specify a particular phase.

Site needs to be tested to determine extent and nature and its relationship to CA 66 and 67, also on Uram Bay.

Site Number: 21 CA 69

Name: Field Site #5

Location: See Volume 2

Description:

The site is located on the first high area west of Battle Point (marsh and bog separate). Leech Lake. Area is heavily developed (Indian housing) with lawns and boat launch areas. Material began showing up at 2nd cabin (brown) past the Battle Point Lodge, to the west. Material continued to end of high ground where sand spit leads out to Battle Point.

Ownership: Leech Lake Indians, Cass Lake

Cultural Affiliation: Prehistoric: unknown Middle or Late component.

Collections: U of MN 806-5 (1-3)

Material List: 20 body sherds
2 lithic flakes
1 turtle shell

Discussion and recommendations:

Altho this area is heavily developed (Indian Housing Project), intensive testing should be undertaken to determine how much of the site remains and what relationship it has to CA 12 and CA 10 (on either side of CA 69).

Site Number: 21 CA 70

Name: Field Site #7

Location: See Volume 2

Description:

The site is located on the small island to the west of Partridge Point connected to the mainland by a foot bridge. Island is to the northwest of the mainland (and southeast of Bear Island). It is high and flat with about 1/3 southwest in lawn and trees; remainder is undeveloped with elm, ash, basswood and varying nettles, brush, wild flowers understory. Two cabins and several out buildings in the southwest. West shore is boulders; southeast and north and east are marsh grasses and sand. Little exposure, but material found near cabin, in woods and on ice ridge.

Ownership: private (see volume 2)

Cultural Affiliation: Middle Prehistoric

Collections: U of MN 806-7 (1-4)

Material List: 16 body sherds
1 decorated non-rim
2 rims
2 lithic flakes

Discussion and recommendations:

This site is the nearest mainland point to the extensive Bear Island site. Altho it does not appear to be in any immediate danger (unless the owners plan more development), the site should be tested to determine extent, disturbance, and relationship to Bear Island and CA 71.

The limited number of ceramic sherds suggest a Middle Prehistoric period occupation for the site, perhaps at the point of transition from Middle to Late Prehistoric. The absence of net and fabric marked body sherds reinforces this suggestion.



Figure 34. Site CA 70 on Partridge Point showing resort development on the site.



Figure 35. Site CA 72 on Waboose Bay showing badly disturbed remnant of the site following U.S. Forest Service clear cutting for tree planting.

Site Number: 21 CA 71

Name: Field Site #8

Location: See Volume 2

Description:

This site is located along north facing peninsula off Partridge Point, Leech Lake. The point has willows along the shore, elms, oaks on the high ground. Boulder shore on west; sand on east. Lodge and lawn on end. Material in shallows below high ground and at boat landing. Material extends approximately 140 meters south from the tip of the point.

Ownership: Private (see volume 2)

Cultural Affiliation: Middle Prehistoric

Collections: U of MN 806-8 (1-3)

Material List: 13 body sherds
1 lithic tool
3 lithic flakes

Discussion and recommendations:

Erosion on this peninsula is causing damage to the site. Testing of what remains of the site is recommended before the site is destroyed. Additional data are needed to tie it into CA 70 and Bear Island.

The few ceramic sherds in this assemblage are of Middle Prehistoric origins, but lacking diagnostic rim sherds or artifacts, no more precise designation is possible. Intensive testing of the site is warranted.

Site Number: 21 CA 72

Name: Field Site #9

Location: See Volume 2

Description:

This site is located on the high piece of ground on the northwest side of Waboose Bay, Leech Lake. Site area runs along the east "shore" of this high piece of land -- land is now 200-300 meters back from the actual lake. Land ends in a peninsula which points southeast into the lake. The point rises thru terraces from the lake to 6 plus meters. Material was found on the ridge in the newly cleared and dozed and seeded area and in the undisturbed high point and terraces covered with oak and grasses. Site is currently used as a ricing canoe launch to Leech. Forest Service has badly disturbed this site with the plantings.

Ownership: U.S. Forest Service (Cass Lake)

Cultural Affiliation: Middle or Late Woodland

Collection: U of MN 806-9 (1-4)

Material List: 13 body sherds
4 lithic flakes
1 lithic tool
6 lithic flakes

Discussion and recommendations:

The recent destruction of most of this site by Forest Service personnel leaves little hope of gaining large amounts of information on the site. However, a small segment of the site was missed by the dozer and should be tested to determine just what this site was.

The limited assemblage with no diagnostic materials prohibits placement other than general Woodland culture of either the Middle or Late Prehistoric periods.

Site Number: 21 CA 73

Name: Field Site #10

Location: See Volume 2

Description:

This site is located on the south peninsula of the Portage Creek as it enters Leech Lake. Peninsula is a "U" shaped piece of land (U opens to the northwest) which lies to the south of the creek as it enters Leech. A north piece of land lies opposite forming a constriction in the creek. Area has a road to it and two buildings (unused). Area has been cleared -- north dogleg has been dozed and has a grass and sumac covering and is badly disturbed. Tests above boat ramp produced material.

Ownership: BIA

Cultural Affiliation: Middle or Late Prehistoric

Collections: U of MN 806-10 (1-3)

Material List: 2 body sherds
1 lithic tool
1 mandible

Discussion and recommendations:

This site appears to be in no immediate danger, unless the BIA plans development here. Testing to determine site extent and nature is recommended at some future date.

The limited assemblage only allows placement of this site in the general Woodland culture of the Middle or Late Prehistoric periods.

Site Number: 21 CA 74

Name: Field Site #13

Location: See Volume 2

Description:

This site is located on the west side Portage Bay, Leech - almost due west across bay from Zion Camp. Terrace rises from a low, cedar area to northeast and southwest. Terrace is 3 - 5 meters above the lake, slightly undulating, covered with mature maples and nettles. Boulder and gravel beach with prominent ice ridge. 0 - 1 meter terrace covered with ash. Steep bank with erosion and burrowing.

Ownership: U.S. Forest Service, Cass Lake

Cultural Affiliation: Blackduck

Collection: U of MN 806-13 (1-3)

Material List: 2 decorated non-rims
1 body sherd
3 body sherds

Discussion and recommendations:

This site should be intensively tested to determine extent. Site has recently been acquired by federal government so protection should follow. Bank erosion is not severe, but site data is being lost through some erosion.

Same comments as for 21 CA 53.

Site Number: 21 CA 75

Name: Field Site #14

Location: See Volume 2

Description:

This site is located on the west side of Portage Bay, northwest across the lake from Five Mile Point Leech Lake. High piece of ground - NE/SW peninsula, marsh to southwest and west; marsh to northwest behind peninsula; marsh to northeast. Boulder shoreline - narrow (1 meter) shelf behind boulder berm. Rise to site is 2 plus meters. Erosion exposes material in bank. Terrace is rolling; medium size maples with heavy nettle understory.

Ownership: U.S. Forest Service, Cass Lake, MN

Cultural Affiliation: Middle or Late Prehistoric

Collection: U of MN 806-14 (1-2)

Material List: 2 body sherds
1 scraper

Discussion and recommendations:

This site, like 21 CA 74, has recently been acquired by the federal government. Erosion on this site is similar to CA 74 and testing needs to take place to determine extent and relationship to CA 74.

The limited assemblage allows only placement in the general Woodland culture of either Middle or Late Prehistoric periods.

Site Number: 21 CA 76

Name: Field Site #18

Location: See Volume 2

Description:

This site is located on the southwest side of the Blackduck Point peninsula. High flat, 7 meter bank, no lower terrace. Circular mound, 8 meters in diameter, 60 centimeters high, 1 meter from the terrace bank. Upper bank exposure. Maples, oaks.

Ownership: private

Cultural Affiliation: unknown

Collections: none

Material List: none

Discussion and recommendations:

The site is in no immediate danger from erosion, but the landowner should be contacted and asked to avoid disturbing the burial mound.

Site Number: 21 CA 77

Name: Field Site #16

Location: See Volume 2

Description:

This site is located on an island-like piece of high ground northwest of Blackduck Lake, Leech. Lake on north and west (Leech); marsh on east and west. Harbor on south. Heavily developed-stripped, deforested. Top soil pushed onto lower terrace.

Ownership: Private

Cultural Affiliation: Sandy Lake

Collections: U of MN 806-16 (1-2)

Material List: 1 lithic flake
1 rim

Discussion and recommendations:

The site is virtually destroyed by heavy landscaping and construction. Testing in the small remaining undisturbed areas might give us a better idea as to the associations at 21 CA 77.

The limited assemblage indicates a Late Prehistoric Period, Sandy Lake culture.

Site Number: 21 CA 78

Name: Field Site #17

Location: See Volume 2

Description:

This site is located on the point on the northeast side of Headquarters Bay, Leech. High terrace, 1-5 meter bank, 4-5 meters wide lower terrace. Mature maple forest. Bank erosion exposed material in a single 1 meter wide area of bank.

Ownership: private

Cultural Affiliation: Blackduck

Collections: U of MN 806-17 (1-3)

Material List: 1 rim
2 decorated body
4 body sherds

Discussion and recommendations:

This is a Blackduck site of the Late Prehistoric period. The limited assemblage is insufficient to determine if other components are present. The site needs to be tested to determine its extent.

Site Number: 21 CA 79

Name: Field Site #30 Pipe Island

Location: See Volume 2

Description:

This site is located on the east shore of Pipe Island, in the bay between Rogers and Diamond Points and north of Whipholt, Leech. The "stem" part of the pipe is a high terrace (2 meters), boulder shore and ice berms. Dense brush, mature trees. Site may be several and not continuous. Material picked up from three areas of the eroding bank. The bowl of the pipe is mostly under water with only a small island at the very end. Locals tell of picking up dozens of points from the shallows between the bowl and the stem (area is shallow and in reeds).

Ownership: Private

Cultural Affiliation: Middle Prehistoric

Collections: U of MN 806-30 (1-4)

Material List: 9 body sherds
1 bear tooth
1 bison bone

Discussion and recommendations:

This important site needs to be revisited when the water level at Leech is lower than the summer of 1978. The area between Pipe and Little Pipe, long known as a local collecting spot, should be checked. The main island needs extensive testing to determine the extent and nature of the site(s).

The site is Middle Prehistoric but the sample of materials collected is too small to determine the nature of the component(s).

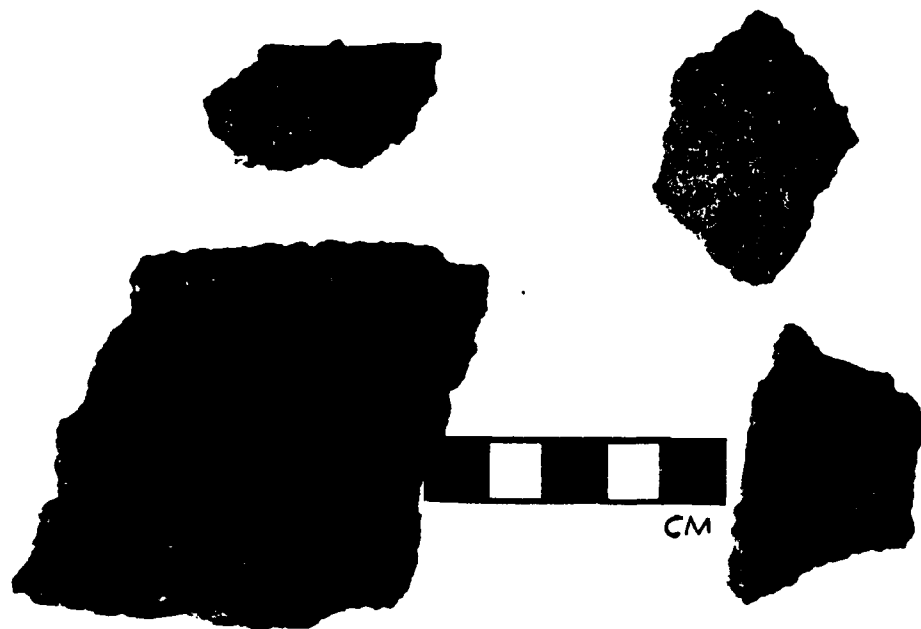


Figure 36. Top row: Site CA 82 Brainerd net impressed ceramics.
Bottom row: Site CA 78 Blackduck combed rims.



Figure 37. Island site CA 79 on Pipe Island.

Site Number: 21 CA 80

Name: Field Site #20

Location: See Volume 2

Description:

This site is located on the northeast side of the main Ottertail "island" and on the southwest side of the bay dividing the two Ottertail islands. High (1 meter plus) terrace, huge oaks, maples facing northeast into bay (old inland lake?). Rice in the bay. Three tests - all negative. Exposed pit with vessel, tools only feature. Area had been newly (within two days) dozed for house.

Ownership: private

Cultural Affiliation: Late Prehistoric with Sandy Lake

Collections: U of MN 806-20 (1-3)

Material List: 55 body sherds
4 lithic tools
1 lithic flake

Discussion and recommendations:

The site may have been confined to the bulldozed area where the artifacts were found. Time only allowed us to put in three tests and perhaps with more extensive work it could be determined if the site was confined or does extend out from the construction area.

The very small assemblage suggests a Late Prehistoric component with at least Sandy Lake represented.

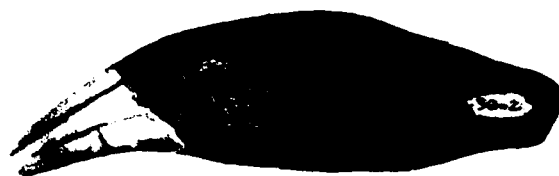


Figure 38. Bear Canine tooth from site CA 79.



Figure 39. Site CA 80 on protected point in Sucker Bay.

Site Number: 21 CA 81

Name: Field Site #21

Location: See Volume 2

Description:

This site is located on the extreme southwest side of Ottertail Point, Leech Lake (not accessible by vehicle). Boulder shore, low 4 meters wide terrace, 3 meters high bank; upper terrace gradually slopes to point. Mound eroding into the lake. Most of the bank is stable, but slumpage at mound.

Ownership: State of Minnesota

Cultural Affiliation: Woodland

Collections: U of MN 806-21 (1)

Material List: 2 body sherds

Discussion and recommendations:

No diagnostic materials are present in the assemblage. The site can only be classified as general Woodland.

The site needs to be mitigated or protected. The erosion of this mound will continue unless measures are taken immediately to preserve it.

Site Number: 21 CA 82

Name: Field Site #22

Location: See Volume 2

Description:

This site is located on the extreme southern tip of Ottertail Point, Leech, near cabin. Lower terrace (cabin area), bank and upper terrace (upper is cleared). Two tests: one negative, one with material.

Ownership: Leech Lake Indians, Cass Lake

Cultural Affiliation: Middle Prehistoric

Collections: U of MN 806-22 (1-3)

Material List: 6 body sherds
1 burned bone

Discussion and recommendations:

This site is Middle Prehistoric and probably single component. It is of considerable potential and needs intensive testing to determine its potential for National Register nomination.



Figure 40. Site CA80 lithic artifacts. Top: Fragment of sandstone abrader. Bottom: Butt end of ground stone celt.

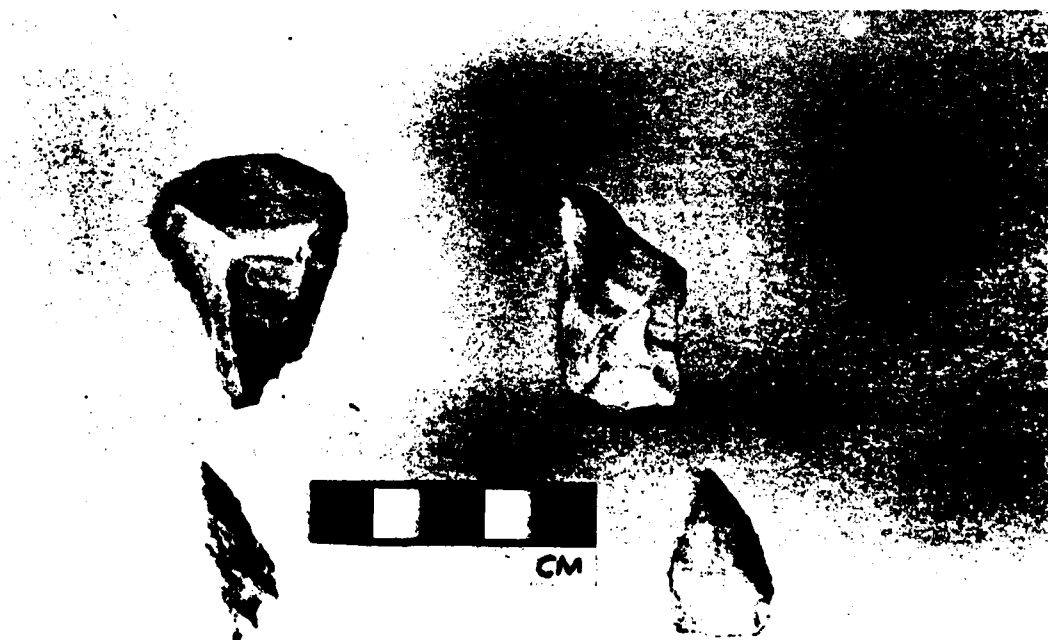


Figure 41. Lithic artifacts. Top row: CA47 end scraper; CA97 side scraper/knife. Bottom row: CA96 side notched points and triangular points.

Site Number: 21 CA 83

Name: Field Site #23

Location: See Volume 2

Description:

This site is located on the southeast side of Ottertail Point, Leech, approximately 200 meters northeast of the tip of the point. Hilly area, steep banks, eroding bank; 4 meters wide lower terrace, 3 meters high bank; mound is on the edge of the upper terrace.

Ownership: Leech Lake Indians, Cass Lake

Cultural Affiliation: Middle or Late Prehistoric

Collections: U of MN 806-23 (1-2)

Material List: 2 body sherds
1 lithic flake

Discussion and recommendations:

The mound appears not to be in danger, but testing is necessary in the habitation area to determine the extent and a more definite cultural affiliation.

The limited assemblage allows placement of this site in the general Woodland culture of Middle or Late Prehistoric periods.

Site Number: 21 CA 84

Name: Field Site #24

Location: See Volume 2

Description:

This site is located on Sucker Bay, Leech, north of Ottertail Point and across (east) of Hardwood Point. Two meters high upper terrace; mound is 50 meters northeast of habitation (where lower terrace narrows).

Ownership: West Point Shores

Cultural Affiliation: Sandy Lake

Collections: U of MN 806-24 (1)

Material List: 2 body sherds

Discussion and recommendations:

The limited assemblage indicates a Sandy Lake component of the Late Prehistoric Period.

The site needs to be tested to determine if this is one continuous site along the shore or if the separated artifact locations indicate individual sites. The land owner should be notified of the burial mound and asked to protect it.

Site Number: 21 CA 85

Name: Field Site #27

Location: See Volume 2

Description: This site is located on the east shore of Sucker Bay, Leech, between Leech and road to Ottertail Point. Boulder shore 2 plus meters above lake, narrow 1-2 meter shelf, 1 meter high bank, terrace, a ramp of dirt from terrace to berm. Cedar tree on ramp. Vessel in roots of cedar.

Ownership: U.S. Forest Service, Cass Lake Minnesota

Cultural Affiliation: Sandy Lake

Collections: U of MN 806-27 (1-4)

Material List: 1 rim sherd
17 body sherds
1 scraper

Discussion and recommendations:

The rim and body sherds in this assemblage are all from the same Sandy Lake vessel. There is a Late Prehistoric component, but the sample size of the assemblage is too small to determine if additional components are present.

The site needs to be tested to determine if this was an isolated find or if the site is more extensive.

Site Number: 21 CA 86

Name: Field Site #25

Location: See Volume 2

Description:

This site is located on the east shore of Sucker Bay, Leech, in bay across (southeast of) CA-14. Irregular bank; upper terrace slopes into lower terrace. Boulder/berm then 1 meter strip then upper terrace. Material is in exposed bank.

Ownership: Private

Cultural Affiliation: Middle Prehistoric

Collections: U of MN 806-25 (1)

Material List: 12 body sherds

Discussion and recommendations:

The ceramics indicate a Middle Prehistoric Period site perhaps from the earliest phase of Woodland culture in the region. The site thus assumes importance and should receive intensive testing to determine its significance for National Register purposes.

Site Number: 21 CA 87

Name: Field Site #26

Location: See Volume 2

Description:

This site is located on the east shore of Sucker Bay, Leech, in bay across from CA-14. Boulder berm, 1 meter lower terrace, 3 meter bank to upper terrace. Material is in exposed upper portion of the bank.

Ownership: private

Cultural Affiliation: Late Prehistoric

Collections: U of MN 806-26 (1-2)

Material List: 1 decorated non-rim
3 body sherds

Discussion and recommendations:

One Blackduck rim sherd indicates a Late Prehistoric component at the site. The size of the assemblage is too small to determine if other components are present.

This site needs testing to determine its extent and exact cultural affiliation.

Site Number: 21 CA 88

Name: Field Site #28

Location: See Volume 2

Description:

This site is located on the extreme northeast end of Sucker Bay, Leech, (east across bay from Life Raft Lake). Five meters high, steep bank, boulder shore. Material out of eroding bank. Upper terrace flat.

Ownership: private

Cultural Affiliation: Middle to Late Prehistoric

Collections: U of MN 806-28 (1-3)

Material List: 1 rim sherd
18 body sherds
2 lithics

Discussion and recommendations:

This site is probably in the transitional phase between Middle and Late Prehistoric periods. It contains Blackduck and net/fabric impressed sherds but no Sandy Lake. Intensive survey can be justified on the basis of the transitional phase representation. Its significance for National Register nomination purpose needs to be determined by intensive survey.

Erosion is extensive and testing should begin immediately before additional damage is done to the site.

Site Number: 21 CA 89

Name: Field Site #34

Location: See Volume 2

Description:

This site is located on the east part of Squaw Point (between Squaw and Bear-trap), Leech. Area is flat terrace, gradual slope to water; no bank. Weedy shore, floating bog, sandy, no boulders.

Ownership: Leech Lake Indian, Cass Lake

Cultural Affiliation: multicomponent

Collections: U of MN 806-34 (1-4)

Material List: 15 body sherds
1 piece of glass
4 historic artifacts
4 lithic flakes

Discussion and recommendations:

Cultural Affiliation: A multi-component site with a late 19th century historic component represented by the white ware ceramic sherds and the glass. The prehistoric component is of the Woodland Culture but cannot be more precisely defined.

The site has been bulldozed in one area. Before additional damage is done to the site, it should be tested to determine the nature of the prehistoric component.

Site Number: 21 CA 90

Name: Field Site #36

Location: See Volume 2

Description:

This site is located on the last piece of high ground on Northwest Sucker Bay, Leech. About half way between center of peninsula and north point at small boat harbor is area called Baumgards Landing. Boulder shore, 1 - 2 meters narrow lower terrace, 1 meter bank and flat grassy upper terrace. Harbor has rectangular "well" of cedar posts set in water (fish holding area or well). Also 1890 logging camp here. And used historically by Indians for fishing.

Ownership: private

Cultural Affiliation: Blackduck; historic

Collections: U of MN 806-36 (1-3)

Material List: 1 rim
2 body sherds
1 lithic flake
(Huge collection owned by the Frey's)

Discussion and recommendations:

This important area has been used extensively prehistorically and historically. More work needs to be done here to determine prehistoric components, location of various historic activities, the site's eligibility for the National Register and its relationship to nearby sites 21 CA 14, 91, and 45.

The small sample of collected materials is represented by Blackduck culture ceramics. The sample is too small to determine if other components are represented.

Site Number: 21 CA 91

Name: Field Site #37

Location: See Volume 2

Description:

This site is located on the high ground in northwest Sucker Bay, Leech, north of marsh and CA-14 site. Rolling terrace, lower terrace 1-2 meters high bank, boulder shore, material eroding out of bank from 35-36 section line south to marsh.

Ownership: State of Minnesota

Cultural Affiliation: Middle/Late Prehistoric; historic

Collection: U of MN 806-37 (1-4)

Material List: 10 body sherds
3 lithic tools
3 lithic flakes
3 pieces of glass

Discussion and recommendations:

The small assemblage from this site contains material from the general Woodland culture of the Middle and/or Late Prehistoric Periods and glass sherds from the Historic periods. None are diagnostic.

This site needs to be tested to determine its eligibility for the National Register and its relationship to 21 CA 14, 90 and 45.

Site Number: 21 CA 92

Name: Field Site #38

Location: See Volume 2

Description:

This site is located at the south end of Chippewa Beach on the southwest side of Sucker Bay, Leech. Boulder shore, bank rises from a 5 meter lower terrace to an 8 meter bank and rolling upper terrace. The bank slopes down in front of the house, but most of this is landscaping. Most material in the owners collection is from a graded knoll behind his first cabin. Area had a large 8 foot diameter stone ring with charcoal and burned bones. An ax and pipe were found in the ring.

Ownership: private

Cultural Affiliation: Middle/Late Prehistoric

Collections: private; U of MN 806-38 (1-3)

Material List: 14 body sherds
1 lithic
(owner has large collection from site)

Discussion and recommendations:

The non-diagnostic prehistoric ceramics from this site indicate only general Woodland component(s) from the Middle and/or Late Prehistoric Periods.

Although areas of this potentially important site have been disturbed by construction and landscaping, testing needs to be done to locate subsurface features which should still be present. The site's National Register eligibility should be determined.

Site Number: 21 CA 93

Name: Field Site #41

Location: See Volume 2

Description:

This site is located on the east shore of Steamboat Bay, Leech upper end of bay. Bank is high, rising straight from sandy shore to 1-5 meters. Much erosion. Very dense underbrush and small oaks. Material began showing up in bank approximately 100 meters after leaving the first service road and walking north. Material not heavy, but continued for 50 - 100 meters along bank.

Ownership: U.S. Forest Service, Cass Lake

Cultural Affiliation: Sandy Lake; probable Blackduck

Collection: U of MN 806-41 (1-2)

Material List: 10 body sherds
2 lithic flakes

Discussion and recommendations:

Sandy Lake and probably Blackduck components are represented in this Late Prehistoric Period site.

The site needs to be tested for extent and component details before additional erosion destroys the site.

Site Number: 21 CA 94

Name: Field Site #40

Location: See Volume 2

Description:

This site is located on the east side of Steamboat Bay, Leech. About half way between Section 11 line and marsh to the north; bank is lower than to the south--about 1 meter and terrace slopes back gradually

Ownership: U.S. Forest Service, Cass Lake

Cultural Affiliation: Sandy Lake

Collections: U of MN 806-40(1)

Material List: 11 body sherds

Discussion and recommendations:

The assemblage is Sandy Lake from the Late Prehistoric Period. The sample is too small to be certain, but the site may be a single component unit.

Testing needs to be conducted to determine the size of the site and its affiliation, if any, with CA 93.

Site Number: 21 CA 95

Name: Field Site #44

Location: See Volume 2

Description: This site is located on the west side of Steamboat Bay, Leech, on the first high ground south of Steamboat R entrance. Low, flat terrace of lawns; sandy .50 bank, shallows silty and reedy. Pottery along shore. Marsh follows this site.

Ownership: private

Cultural Affiliation: Middle or Late Prehistoric

Collections: U of MN 806-44 (1-2)

Material List: 2 body sherds

Discussion and recommendations:

The very small sample is indicative only of general Woodland Culture of either the Middle or Late Prehistoric Periods.

The heavy concentration of homes in this area may have obliterated this site, but testing needs to be carried out to determine its cultural affiliation.

Site Number: 21 CA 96

Name: Field Site #45

Location: See Volume 2

Description:

This site is located on the west side of Steamboat Bay, Leech, just south of CA 95. Low terrace, low bank with exposure. Area extends all along to "T" shaped marina to south.

Ownership: private

Cultural Affiliation: Blackduck; possibly Kathio

Collections: U of MN 806-45 (1-4)

Material List: 2 rims
13 body sherds
3 lithics
1 lithic flake

Discussion and recommendations:

The sample collected here is Blackduck of the Late Prehistoric Period. A second rim sherd is very similar to Kathio of east-central Minnesota and may be intrusive.

This developed area should be tested before any further recreational development takes place. There is no danger from erosion, but there is from private landscaping and construction.



Figure 42. South end of Bear Island from Partridge Point.



Figure 43. Top row: Site CA96 St. Croix stamped rim; Site CA43 punctate decorated rim. Bottom: Site CA108 Middle Historic period ceramics.

Site Number: 21 CA 97

Name: Field Site #46

Location: See Volume 2

Description:

This site is located on Sucker Bay west side on south and east of Hardwood Point (Leech Lake). Boulder shore, 5 meter wide lower terrace, 2 meter high bank, flat upper terrace. Material eroding out of bank. Site is 70 meters northeast of cabin.

Ownership: private

Cultural Affiliation: Middle/Late Prehistoric

Collections: U of MN 806-46 (1-2)

Material List: 1 lithic tool
7 body sherds

Discussion and recommendations:

The collection from this site is diagnostic only of the general Woodland Culture of the Middle and/or Late Prehistoric Periods.

This site is in no danger from development, but the bank erosion is causing damage to the site. Testing should be conducted to determine the exact cultural affiliation.

Site Number: 21 CA 98

Name: Field Site #47

Location: See Volume 2

Description:

This site is located on west shore of Steamboat Bay, Leech, east of town of Leech Lake; across from Squaw Point. Area to north of site is high hill (3 meters), bank to boulder shore; slopes at the land owners to a lower terrace then into a marsh. Some landscaping of the lawn around the new house. Owner has collected pottery and lithics from the beach and garden.

Ownership: private

Cultural Affiliation: Middle and Late Prehistoric

Collections: private

Material List: none

Discussion and recommendations:

The site is in no danger from erosion or construction. The owners collection consists of Malmo/kernand Havana zoned ceramics. The site should be tested for National Register potential.

Site Number: 21 CA 99

Name: Field Site #48

Location: See Volume 2

Description:

This site is located on first point west side Walker Bay, Leech south of Kabekona Narrows. Boulder shore 2 plus meter bank, 1 meter wide lower terrace, flat upper terrace with resort built on it. Owners have lost 1-2 meters of bank in the last 7 years. Point is disturbed with marina; material found at the south end of the resort property, eroding out of the bank.

Ownership: private

Cultural Affiliation: Sandy Lake

Collections: U of MN 806-48 (1-2)

Material List: 8 body sherds
1 lithic flake

Discussion and recommendations:

The small assemblage has Sandy Lake ceramic sherds of the Late Prehistoric Period.

This site is in extreme danger of being destroyed. The erosion is severe and sections of the site are being washed away each season. Testing needs to be conducted to determine what remains of the site, if it is eligible for the National Register, and what steps must be taken to assure the site is not lost.

Site Number: 21 CA 100

Name: Field Site #50

Location: See Volume 2

Description:

This site is located on south point of 'big island' of Shingobee Island, Shingobee Bay, Leech. .50 meters bank being undercut; sand shore, low terrace on which is built the resort. Erosion is great.

Ownership: private

Cultural Affiliation: Middle Prehistoric (Malmo)

Collections: 806-50 (1-3)

Material List: 1 bone
1 lithic
1 body sherd

Discussion and recommendations:

The few ceramic sherds and the very heavy percussion flaked implements suggest a Middle Prehistoric Period component of an early Malmo phase. This may represent the earliest Woodland culture in the region and needs intensive survey to determine its significance for National Register significance. This site is being badly eroded.

Site Number: 21 CA 101

Name: Field Site #52

Location: See Volume 2

Description: \

This site is located on the northeast point of Agency Narrows (between Agency and Walker Bays, Leech). Point is high to the west side-over 6 meters, boulder shore, no lower terrace. Slopes gradually down to the point. Some areas appear to have been filled and lawned. Point is approximately 15 meters: flat and wet, bank to a 1 meter rise then gradual slope up to house. Material from north side of point; bank exposure.

Ownership: private

Cultural Affiliation: Middle or Late Prehistoric

Collections: U of MN 806-52 (1)

Material List: 1 body sherd

Discussion and recommendations:

This is a Woodland culture site of either Middle or Late Prehistoric Period affiliation.

This site is in no danger from erosion or development. Testing should be done to determine cultural affiliation.

Site Number: 21 CA 102

Name: Field Site #53

Location: See Volume 2

Description:

This site is located on the point on the southeast side of Agency Bay, Leech, south of the entrance to Rice Lake. Boulder shore, low terrace on south side, no bank, grass leading into a sand beach/bay. Then rise to a 3 meter upper, rolling terrace. Slope is slight. Over 20 years guests have found points, an adz, and historic material.

Ownership: private

Cultural Affiliation: undetermined

Collection: private

Material List: none

Discussion and recommendations:

No danger from erosion. Site should be tested for cultural affiliation.

Site Number: 21 CA 103

Name: Field Site #54

Location: See Volume 2

Description:

This site is located on northwest point of Agency Narrows--island. The small island at the end of the point tapers at both ends. Nice terraces on both ends. High center to island. Ten meter banks on north and south sides. Boulder berm, low narrow 1 meter lower terrace, steep bank, little or no exposure. Material from an animal hole on the top of the 4 meter bank on the southeast side of the island.

Ownership: Leech Lake Indians

Cultural Affiliation: Sandy Lake

Collections: U of MN 806-54(1)

Material List: 3 body sherds

Discussion and recommendations:

Sherds from a Sandy Lake component of Late Prehistoric age form the assemblage collected at this site.

The site is in no danger from erosion, but any development plans could have an adverse affect on the site: area should be tested for significance.

Site Number: 21 CA 104

Name: Field Site #53

Location: See Volume 2

Description:

This site is located on high ridge on south side of Cedar Point. Tall narrow ridge with lake on west, marsh on east. Bank rises to 10 meters above lake, boulder shore. Two mounds on the ridge: each 5 meters long, 1 meter wide and .50 meters high.

Also 3-4 ricing pits.

Ownership: Chippewa National Forest

Cultural Affiliation: undetermined

Collections: none

Material List: none

Discussion and recommendations:

This site is in no danger from erosion and no work is recommended at this time.

Site Number: 21 CA 105

Name: Field Site #56

Location: See Volume 2

Description:

This site is located on the long sand ridge on the southwest side of Traders Bay, Leech between bay and Gould Lake. A long sand beach with a 1 meter high and 25 meter wide sand (oak) ridge. Locals have picked up pottery and points along the beach from the canal to the cabins. Photos of two collections.

Ownership: several - private

Cultural Affiliation: Late Prehistoric

Collections: private

Material List: none

Discussion and recommendations:

This area is in no danger from erosion, but continued construction is threatening the site. Testing should be done before the site is totally destroyed.

Site Number: 21 CA 106

Name: Field Site #57

Location: See Volume 2

Description:

This site is located on the west side of Agency Narrows, southwest of Onigum Marina, Leech Lake. Boulder shore, bank 3 meters, no berm, no lower terrace. Bank with some exposure. Material from the bank. Oak and pine with grass and underbrush.

Ownership: Leech Lake Indians, Cass Lake

Cultural Affiliation: Middle or Late Prehistoric

Collections: U of MN 806-57 (1-2)

Material List: 2 body sherds
1 lithic

Discussion and recommendations:

The small sample is indicative of only general Woodland culture of the Middle and/or Late Prehistoric Periods.

Erosion is minimal and, unless the Leech Lake Band has some plans for development, the site is in no danger. Testing should be done to better define the cultural context.

Site Number: 21 CA 107

Name: Field Site #58

Location: See Volume 2

Description:

This site is located on the point between Walker Bay and Agency Narrows, north side, Leech Lake. On South side of point the marsh continues and the lower terrace widens. An arm extends out into the lake with marsh between the arm and shore. The site begins at the base of the arm. From the lake side of the arm, around the south end of the point, there is a sandy beach, 19 meters wide with horetails, then a 2 meter bank. Material from bank. Terrace is 20 meters wide, then rises 10 meters to an upper terrace. Oak, poplar, birch. At least two middens off the bank each approximately 1 - 1.5 meters long, 1 meter wide, 1 meter high, 5 meters apart. (area has recently been flagged for subdivision)

Ownership: private

Cultural Affiliation: Woodland

Collections: U of MN 806-58 (1-4)

Material List: 2 lithic tools
3 lithic flakes
3 body sherds
12 bones

Discussion and recommendations:

A general Woodland Culture association is indicated for the assemblage. No diagnostic materials are present to further define the site in the Middle and/or Late Prehistoric Periods.

The site is in immediate danger from development. This potentially important site must be tested to determine the nature of the site and its eligibility for National Register. The landowner must be notified regarding the importance of avoiding development in this part of the point.

Site Number: 21 CA 108

Name: Field Site #59

Location: See Volume 2

Description:

This site is located on the point on the north end of Cedar Point, Walker Bay, Leech Lake. (Most of west shore of Cedar Point is a high bank rising to 15 meters as it runs north. Area begins to slope down at the 3/2 section line and develops into a flat terrace). Terrace is 100+ meters wide with a 1 meter high boulder berm and an irregular bank. Bank is approximately 1 meter high, some exposure. Material from the bank. Terrace is covered with rice pits (two dozen+) and some possible house depressions.

Ownership: U.S. Forest Service, Cass Lake

Cultural Affiliation: Sandy Lake and historic

Collections: U of MN 806-59 (1-2)

Material List: 4 body sherds
1 historic artifact

Discussion and recommendations:

Cultural affiliation: This site is multi-component with a Late Prehistoric Period Sandy Lake assemblage and a 19th-early 20th century historic component. The historic sherd is underglazed printed (stamped) white ware most probably dating after 1850.

This potentially important site needs to be intensively tested to determine its eligibility for National Register

Site Number: 21 CA 121

Name: Field Site #60

Location: See Volume 2

Description:

This site is located on the east side of Rogers Point between main island and island to southeast. Area is mixture of features: sand bar with boulder shore, marsh on one side, lake on the other. Shallows boulder beach. Thin piece of high ground with 6 meters erosional bank. Basswood on high ground; willows and grasses on low. Sherd on sand beach, scraper in shallows 50 centimeters out.

Ownership: private

Cultural Affiliation: Woodland

Collections: U of MN 806-60 (1-2)

Material List: 1 body sherd
1 scraper

Discussion and recommendations:

The small sample is indicative of only general Woodland Culture of the Middle and/or Late Prehistoric Periods.

The site needs testing to determine its extent. Erosion is bad and it is important to do additional work before the entire site is destroyed.

Site Number: 21 CA 122

Name: Field Site #61

Location: See Volume 2

Description:

This site is located on an island off the southeast shore of the south arm of Onigum Point, Leech Lake. Island has water on south; marsh on east, west and north. Rises to 10+ meters; whole island is only approximately 75 meters across. Pits are on top of the island. Grass covered with large poplars, some oak.

Ownership: private

Cultural Affiliation: undefined

Collections: none

Material List: none

Discussion and recommendations:

The site is in no danger from erosion, however, planned housing development on the nearby shore may put this site in danger. Testing of the depressions is needed.

Site Number: 21 CA 123

Name: Field Site #62

Location: See Volume 2

Description:

This site is located on the north end of "island" in Section 3 on the west side of Sucker Bay, Leech. Island tapers down on the north end to the marsh. Mound is 3 x 4 x .50, covered with nettles in a forest of basswoods, ash and ferns. Pebble beach. Mound is approximately 10 meters back from the shore.

Ownership: West Point Shores Subdivision

Cultural Affiliation: undefined

Collections: none

Material List: none

Discussion and recommendations:

This site is in no danger from erosion, but could potentially be destroyed by development.

Site Number: 21 CA 124

Name: Field Site #63

Location: See Volume 2

Description:

This site is located on the southwest side of Sucker Bay, across from Goose Island in Chippewa Beach Subdivision, Leech. A single mound, 2 meters across and 70 centimeters high with small boulders on top next to an old Indian trail, parts of which can still be seen where lawn and development have not destroyed it. On terrace approximately 3 meters above the lake.

Ownership: private

Cultural Affiliation: undefined

Collections: none

Material List: none

Discussion and recommendations:

The site is in no danger. Landowner is protective of it and no work is recommended at this time.

Site Number: 21 CA 125

Name: Field Site #64

Location: See Volume 2

Description:

This site is located on the southwest side of Sucker Bay, Leech north 1/2 mile from Little Hardwood Resort. Boulder shore, sand and cobble beach and a berm 10 - 15 meters wide with a wet area behind the berm, a 1 meter irregular bank and a flat terrace with tree fall features but little other topography. Maple, basswood, elm. For 100 meters or so north of the resort, berm and lower terrace is littered with garbage. A few hundred meters into Section 7 beach becomes sand, terrace is damp. Scattered rice pits but exposure is very poor and no other surface material.

Ownership: private

Cultural Affiliation: unknown

Collections: none

Material List: none

Discussion and recommendations:

The site needs to be tested to see if the rice pits are isolated or in association with a habitation. Altho there is no danger from erosion, since the land is private, the owner should be notified and asked not to develop the area until after additional archeological work is done.

Site Number: 21 CA 126

Name: Field Site #65

Location: See Volume 2

Description:

This site is located on the west side of Ottertail Point, Leech north of Hormel Retreat. Three hundred meters north of Hormel Marina and south of 15/22 section line, lower terrace with 10 rice pits, 5 meters back from the lake. Largest is 2.5 meters across.

Ownership: private

Cultural Affiliation:

Collections: none

Material List: none

Discussion and recommendations:

The site should be tested to determine cultural affiliation and its association with 21 CA 127, 128, and 81. The landowner should be contacted and asked to delay any development plans until additional archeological work is completed.

Site Number: 21 CA 127

Name: Field Site #66

Location: See Volume 2

Description:

This site is located on the west side of Ottertail Point, Leech Lake north of Hormel Retreat. Two hundred meters north of Section 15 line, grassy terrace mature maples with tap scars. Three rice pits plus two ornate, disintegrating metal foot lockers.

Ownership: State of Minnesota

Cultural Affiliation: unknown but probably historic .

Collections: none

Material List: none

Discussion and recommendations:

Local reports have this as a major Indian sugaring site. The tree scars and historic debris in the area point to this possibility. The area should be tested to determine if the pits are ricing pits and to establish a more definite cultural affiliation. There is no danger from erosion.

Site Number: 21 CA 128

Name: Field Site # 67

Location: See Volume 2

Description:

This site is located on the west side of Ottertail Point, Leech Lake, 400 meters north of section 15 line. Flat terrace, no bank, boulder shore. Two depressions 10 meters back from the shore; rice pits scattered in area. Depressions could be fort or post foundations or? One is tear drop shaped and 7 meters across in both directions; other is 3 x 2 meters with the east and south sides blending into the ground and only the west and north sides still having distinctive walls approximately 35 centimeters deep. Tear drop hole is very deep: 1.5 - 2 meters on the east side (away from the lake).

Ownership: State of Minnesota

Cultural Affiliation: unknown - historic?

Collections: none

Material List: none

Discussion and recommendations:

This potentially important site needs to be tested, preferably by an historic archaeologist to determine what the deep depressions are, if they are significant, eligible for the Register, and if they are associated with other sites on the peninsula (CA 127, 126, etc.)

Site Number: 21 CA 129

Name: Field Site #68

Location: See Volume 2

Description:

This site is located on the island between southern most island of Ottertail Point and 2nd island, Leech. Island has the road running through it. Island is 1.5 meters high and is to the south of the creek running between the "islands" of Ottertail Point. Three pits on north side of the road and on the north and northwest side of this part of the island.

Ownership: private

Cultural Affiliation: unknown

Collections: none

Material List: none

Discussion and recommendations:

The site, like other ricing sites in the area needs testing to determine affiliation and significance.

Site Number: 21 CA 130

Name: Field Site #69

Location: See Volume 2

Description: This site is located on the north side of Island 1341 in Uram Bay, Leech Lake. Half dozen pits on the top of the island 10 meters above the lake. Island has a narrow shelf with a boulder ridge next to the lake. Bank rises 10 meters to top of terrace.

Ownership: Leech Lake Indians, Cass Lake

Cultural Affiliation: unknown

Collections: none

Material List: none

Discussion and recommendations:

This site has no damage from erosion and no immediate danger of being developed. Testing should be carried out and determine cultural affiliation and association, if any, with nearby CA 66.

Site Number: 21 CA 131

Name: Field Site #39

Location: See Volume 2

Description:

This site is located on the east shore of Steamboat Bay directly across from Minnesota Island. Sand shore, sand bank (1 - 1.5 meters) which rises sharply and is eroding in places. Shallows extend 30 meters into lake. Upper terrace is flat and wooded. Material in water out to 7 meters and in eroding bank and in an uprooted tree 10 meters in on the upland. This area is about halfway between the two "points" that protrude into the lake in this section. Habitation may be associated (or part of?) the large mound site (21 CA 35) just to the south of here (50 - 100 meters).

Ownership: U.S. Forest Service, Cass Lake

Cultural Affiliation: Middle/Late woodland

Collections: U of MN 806-39 (1-2)

Material List: 3 lithic tools
3 body sherds

Discussion and recommendations:

This assemblage is general Woodland culture but non-diagnostic within that category. It falls in the Middle and/or Late Prehistoric Period.

The site needs to be tested to determine its association with 21 CA 35, if any, and to determine its cultural affiliation.

Site Number:

Name: Field Site #f-2

Location: See Volume 2

Description:

This site is located on high, "mainland" area of Partridge Point, Leech Lake. Road cut on top of hill; terrace before it drops down to lower terrace and before crossing over to island. Point found in road on surface. Across from CA 70. Several Tests in area produced no other material on this upland terrace.

Ownership: private

Cultural Affiliation: unidentifiable

Collection: U of MN 806-f-2

Material List: 1 projectile point

Discussion and recommendations:

The lone artifact appears to be an isolated find. Tests in the area were negative. It is possible someone dropped the point going to or from CA 70 across the marsh. No additional work is recommended.

Site Number:

Name: Field Site #f-1

Location: See Volume 2

Description:

An island on the west side of Agency Bay rises to 3 meters above the lake on the north and south sides - marsh to the east. Small marina built on southeast side. Lawn with scattered 1 year deciduous trees and small planted pines.

Ownership: private

Cultural Affiliation: Late Historic: Ojibwa habitation area

Collections: U.M. 806-f-1

Material List: unglazed historic pottery
metal artifacts

Discussion and recommendations:

Cultural affiliation: Historic era. Late 19th or early 20th century. Early reservation Ojibwa dwelling area. Sherd is under glazed green transfer printed white ware manufactured after 1850-1860.

The island should be tested to determine if there is a prehistoric component. Some erosion in the south bank is exposing historical materials.

Leech Lake Reservoir Corps Owned Lands

Land held by the U.S. Army Corps of Engineers adjacent to the Leech Lake Reservoir consists of only 45 acres located at the outlet dam on the east end of the lake. The outlet flowage forms the Leech Lake River which joins the Mississippi River above the Pokegama Lake Reservoir.

This dam area land is almost maximally utilized at this time. The dam itself and the associated structures including the Dam Tender's residence, a large shop building, smaller ancillary structures and a fenced storage area occupy less than 1/4 of the land. The flood plain along the south side of the outlet channel above the dam is occupied by seasonal concessionaries whose seven separate structures house sport fishing boat and bait businesses, each with its associated docking facilities and automobile parking areas. This commercial area uses another 1/4 of the available land area.

The remaining portion of the Corps owned lands have been developed into a public recreation/campground marked by "comfort" stations, tent and camping pads, cooking grills, access roads, and a children's playground.

The area north of the outlet channel and on the lakeside of the dam is low marsh and is undeveloped.

The entire area of Corps owned lands was intensively tested by the Principal Investigator with the assistance of Thomas Neumann in 1975 under Corps of Engineers contract DACW 37-75-C-0150. The expansion and further development of the public use recreational area necessitated this field testing. The report on that field survey showed that the lands on the south side of the outlet channel adjacent to the dam itself had been used as a source of fill in dam and dike construction with one to two meters of fill removed leaving only remnant original soils under scattered burr oak estimated to be over 100 years old. These original soil remnants had eroded into circular, conical land forms looking exactly like prehistoric burial mounds. They were tested, however, and shown to consist of undisturbed soil.

The interior camps ground/recreation area was tested and produced no evidence of either prehistoric or historic cultural materials and the report recommended no restriction on any construction activity in the public recreation area.

The flood plain area occupied by the Corps of Engineers structures and the concessionaires area did produce some prehistoric cultural material. A single isolated burial mound within the Corps headquarters area was located and is now protected. The report suggested that the mound may be a single remnant of a once more extensive mound group destroyed during the dam and dike construction. That is speculative, however, as there is no record of such a mound group in Winchell (1911) nor do the state site files or the unpublished notes of Professor Emeritus Lloyd A. Wilford (University of Minnesota) record a mound group at that location.

Test excavations at only one location of this flood plain produced two quartzite debitage flakes and three very small cord marked ceramic body sherds (Accession #779, University of Minnesota). This was the only test excavation area that showed any evidence of a prehistoric component. The lack of any corroborating evidence from other tests, and the minimal amount of material from that one test pit did not warrant a site designation by the State Archaeologist.

Perhaps the most significant cultural resources at this locality are the dam tender's house and the boat and bait concession area. The house structure has no significant architectural features, but as representative of the very early Corps of Engineers control of Headwaters flowage, could well merit consideration for nomination to the National Register.

The concession area and its structures may also merit consideration for National Register nomination representing an example of the very early resort tourist development of the Headwaters area. Leech Lake is one of the major sport fishing and waterfowling lakes in the larger region and the dam area concessions appear to be significant representatives of the beginnings of that development.

The final report on the earlier intensive testing (Johnson, 1975) is on file with the St. Paul District, Corps of Engineers and in the Archaeology Laboratory, University of Minnesota.

7. Pine River Reservoir

The field research at this reservoir system was carried out under sub-contract by Archaeological Field Services, Inc., and was directed by C. Joseph Hudak. The Pine River Reservoir is located in the Whitefish chain of lakes which lie northeast of the Gull Lake Reservoir and are today a major summer recreation area with lakeshores developed almost to the degree seen on Gull Lake.

The major lakes in the reservoir system are Cross, Big Trout, Lower Whitefish and Upper Whitefish. The raising of water levels after the construction of the Corps of Engineers dam connected Daggett, Little Pine, Rush, Island, Pig, Arrowhead, Clamshell, Bertha, and Lower Hay lakes to the system. The Scope of Work called for shoreline reconnaissance of the four major lakes and, if time and resources permitted, a similar survey of the secondary lake shorelines. Unfortunately, the latter survey was not possible. This survey also involved a large number of small parcels of land owned by the Corps of Engineers each of which was subjected to intensive survey. Maps of each of these areas appear in the third volume of this report and on those maps, the locations of the subsurface test excavations are plotted. With the exception of the damsite and an adjacent island, these small parcels are either back from the shoreline, or if they are adjacent to the shoreline, they are low and marshy. With one exception noted in the succeeding pages, these tests were negative.

The Pine River Reservoir lakes are located in an area of very sandy soils which are subject to water erosion. Gull Lake lies in this same soil province but there water levels are kept quite stable. In contrast, there is much greater water fluctuation of those levels in the Pine River Reservoir and of the four reservoirs surveyed under this project, erosional damage here is most severe.

The survey of Pine River shorelines began at an optimum time, in early spring when water levels were very low and the winter ice had melted out only a few feet from the shoreline. This period during April and early May afforded a much better opportunity to observe eroded cultural materials and gave the field crew site location clues that they might not have observed at later periods of higher water. Following the shoreline walking in the early spring, the latter part of May and the month of June were spent in walking the adjacent upland areas and conducting the shovel testing. When shovel tests were used, they were done according to the standard procedure of excavations in 1 meter square units excavated to sterile subsoil or 1 meter, whichever depth came first.

The 24 prehistoric/historic archaeological sites located and checked in the field are recorded on the following pages.

21CW3: McAloon Mounds

DESCRIPTION:

This recorded site is on an east point at the entrance to Lower Whitefish Lake from Bertha Lake. Some cabins have been constructed in the area, but the archaeological features are intact.

CULTURAL MATERIAL:

None collected on this survey. Excavation data from the 1957 U. Minnesota excavations are reported in Wilford, Johnson, Vicinus (1947:19-21).

CULTURAL AFFILIATION:

The previous excavations showed that the mounds had been badly disturbed by previous amateur excavations. The few pottery sherds found are indicative only of the Woodland culture of the Middle Prehistoric Period.

U. OF M. ACCESSION NO: 804-28/previous collection #423

COLLECTIONS:

No collections other than those of the University of Minnesota.

TESTING PROCEDURE:

No sub surface testing was done. The mound group is well protected

COMMENTS AND RECOMMENDATIONS:

This mound site has previously been tested by the University of Minnesota. Permission to further examine the site was denied by the present landowner, but since there are no signs of erosion, no recommendations for mitigation or protection from erosion are made. A plat of the 1957 mound excavation and photos of the pottery sherds are in Wilford, Johnson, Vicinus (1947 Fig 31, Plate 16).

21 CW 6

DESCRIPTION:

This recorded site is a large island in the southern half of Upper Whitefish Lake. It has low understory and trees on it, but surface examination was possible in some places.

CULTURAL MATERIALS: 5 irregular flakes.

CULTURAL AFFILIATION: Prehistoric Era

U of M ACCESSION: 804-29

COLLECTIONS: Gustafson Collection-Brainerd Court House.

TESTING PROCEDURE:

No subsurface testing was done.

COMMENTS AND RECOMMENDATIONS:

The small assemblage is diagnostic only of the Prehistoric Era. Only a thin and scattered remnant of the site is left and the continuing erosion will destroy this. Salvage of the site is recommended in the immediate future.

21CW13

DESCRIPTION:

This recorded site known as "Indian Paradise" is on the northern shore of Lower Whitefish Lake at the entrance to Big Trout Lake. The surface in this area is mowed grass.

CULTURAL MATERIAL: 12 Lithic Artifacts
 19 Lithic Debitage

CULTURAL AFFILIATION:

The assemblage is prehistoric and lacking ceramics; appears to fall in the Early Prehistoric Period. There are no diagnostic projectile points but the varieties of other lithic artifacts suggests a late Archaic cultural affiliation.

COLLECTIONS: Gustafson Collection - Brainerd Court House

TESTING PROCEDURE:

Shoreline collecting was intensive in this area, but land owners were not available to give permission for subsurface testing. However, this site has already been recorded and is referred to in Wilford's memos on Crow Wing. For further information please consult the State Archaeologist's files.

COMMENTS AND RECOMMENDATIONS:

Permission to test was not obtained but shoreline surface collecting indicates that a major prehistoric portion of this site probably remains and further testing and possible mitigation is recommended as the site is currently being eroded by water action.



Figure 44. Site CW13 artifacts. Top row: Left, uniface knife; Center, biface knife; right, knife or projectile point. Bottom row: left, 2 tabular end scrapers; right, 2 side scrapers on blades.

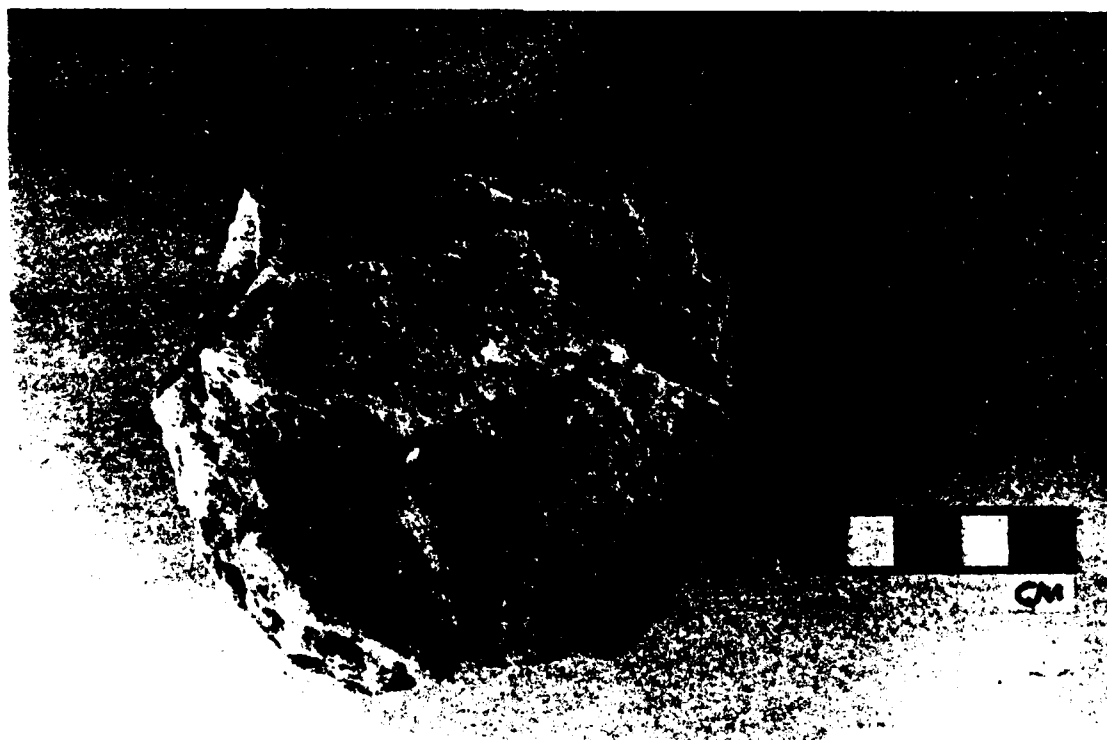


Figure 45: Site CW13 basalt chopping tool.

21CW18

DESCRIPTION:

This site is a small island NW of the Corp of Engineers Gaging Station on which there were small trees and shrubs. The island lies in a generally N and S direction and is somewhat protected in a bay area of Cross Lake.

CULTURAL MATERIAL: 3 Ceramic sherds
 1 Lithic Artifact
 1 Metal object, unidentifiable

CULTURAL AFFILIATION:

The assemblage is diagnostic only of the general Woodland culture.

U. OF M. ACCESSION NO: 804-2

COLLECTIONS:

No collections other than those at the University of Minnesota.

TESTING PROCEDURE:

Due to the small size of the island, only one 50 x 50 cm test pit was put in, from which was recovered a smooth grit tempered sherd and charcoal, all from the top 20 cm. Two cord wrapped, grit tempered body sherds were removed from the eroding bank at the highest point and a basalt chopper was found on the shore.

COMMENTS AND RECOMMENDATIONS:

This site has almost been completely eroded, but a very small portion of it is intact and immediate intensive testing/mitigation is recommended.



Figure 46. Site CW18 illustrating severe bank erosion.



Figure 47: Typical Whitefish chain developed shoreline and eroding banks.

21CW19

DESCRIPTION:

The Edgewater Resort occupies this area. The site is located on a peninsula protruding NW into Cross Lake from the NE shore. It is well-developed and has mowed grass.

CULTURAL MATERIAL: 7 ceramic sherds
 5 Lithic Artifacts
 22 Lithic Debitage
 6 Bone
 5 Metal

CULTURAL AFFILIATION:

The assemblage is Woodland of both the Middle and Late Prehistoric Periods.

U. OF M. ACCESSION NO: 804-3

COLLECTIONS:

The property owner reported that visitors to the area had found artifacts.

TESTING PROCEDURE:

The banks on the lakeside are eroded and from them 1 point, 1 scraper, pottery sherds, burnt bone and waste flakes were recovered at a depth of approximately 50 cm below sod level. One test pit was dug and yielded 6 pieces of cord impressed pottery. A detailed map of the excavation can be found in the field notes.

COMMENTS AND RECOMMENDATIONS:

The site testing indicates a Woodland component approximately 30-50 cm below the sod level. Several undiagnostic grit tempered cord-marked ceramics and 1 stemmed (expanding) projectile and 1 biface (both dark grey chert) were recovered from the single test. Surface contours also indicate a possible house structure or some sort of fortification present. The severe erosion is rapidly destroying the site, and should be corrected through riprap. If this is not done, limited mitigation should take place very soon to salvage what data remain undisturbed.

21CW20

LOCATION: See Volume 2

DESCRIPTION:

This site is north and across the Dagget Lake entrance from the Edgewater Resort. It is a bulbar peninsula extending east to west. The area has been planted with a few trees and shrubs, but is otherwise mowed grass.

CULTURAL MATERIAL: 1 Rimsherd
 4 Lithic Artifacts
 3 Lithic Debitage
 2 Bone

CULTURAL AFFILIATION:

The site is Middle Prehistoric and is most closely related to the Laurel culture that existed early in that period.

U. OF M. ACCESSION: 804-4

COLLECTIONS:

No collections other than those of the University of Minnesota.

TESTING PROCEDURE:

We recovered from the eroded bank a Laurel stab and drag decorated rimsherd and 2 turtle bones (sun bleached). The owners of the property would not allow subsurface testing. Further surface collecting produced an end scraper, 1 triangular point, utilized flake, lithicdebitage and fire cracked rock.

COMMENTS AND RECOMMENDATIONS:

It is recommended that further intensive testing be conducted to determine to what extent the erosion of the banks is effecting the site. Permission to test was refused. Surface collecting was conducted along the eroding banks adjacent to the river channel. While the erosion of the banks is not severe, cultural data are constantly being lost due to wave and wind action. Mitigation through bank protection is recommended.



Figure 48. Site CW20 Laurel-like ceramic rim sherd with stab and drag decoration.

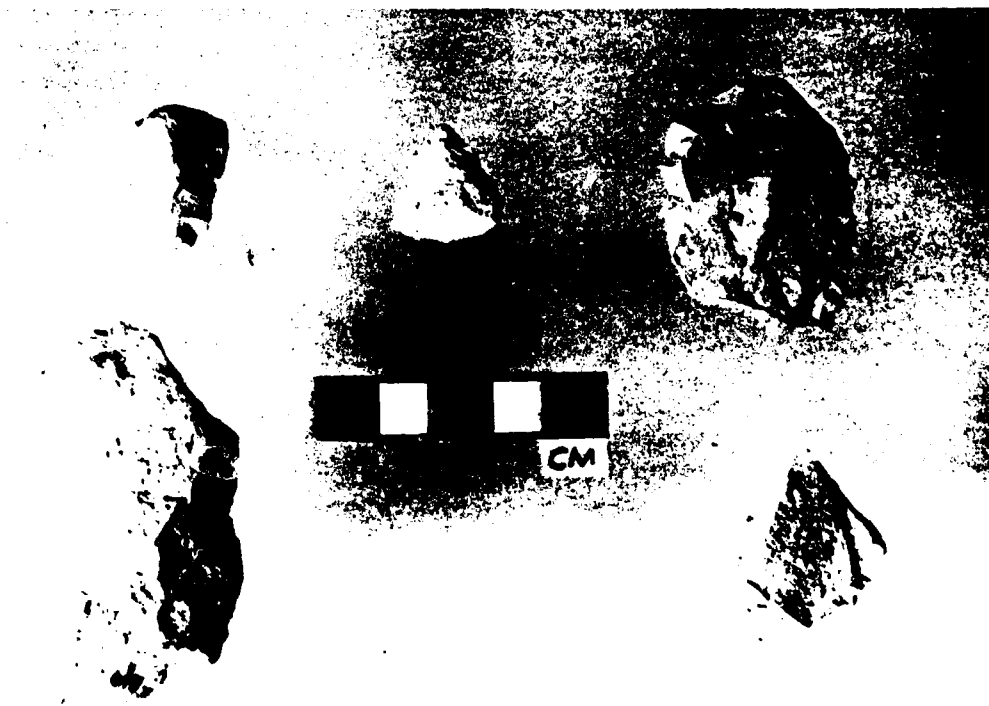


Figure 49. Site CW20 artifacts. Top row: left, end scraper; center, point; right, biface knife. Bottom row: left, biface knife; right, burin.

21CW21

LOCATION: See Volume 2

DESCRIPTION:

This site, Fisherman's Resort, is on the southeastern side of the channel which links Cross Lake and Rush Lake. It has been heavily developed along the lake shore and is rip-rapped with concrete in many areas, but the banks are eroding in some places. The entire area is landscaped.

CULTURAL MATERIAL: 1 Lithic Artifact
1 Lithic Debitage
1 Bone

CULTURAL AFFILIATION:

The small assemblage is diagnostic only of the Prehistoric Era.

U. OF M. ACCESSION NO: 804-5

COLLECTIONS: Unknown - informants reported surface finds from the area, but collections could not be located.

TESTING PROCEDURE:

It was impossible to obtain permission to test on the property, but lithics and bone were recovered from the eroding banks.

COMMENTS AND RECOMMENDATIONS:

Only thin and scattered remnants of this site remain and the severe active erosion will apparently destroy this remnant. In view of the paucity of materials remaining in place, no mitigation is recommended.

21CW22

DESCRIPTION:

This area is the peninsula which protrudes S by SW of the junction of the Upper and Lower Whitefish Lakes. Portions of the area have been inundated and the rest is low swamp.

CULTURAL MATERIAL: 2 Ceramic sherds
 6 Lithic Artifacts
 19 Lithic Debitage
 1 Bone fragment

CULTURAL AFFILIATION:

The small assemblage is diagnostic of the Prehistoric Era with a Late Prehistoric Sandy Lake component and possibly an unidentified earlier component.

U. OF M. ACCESSION NO: 804-6, 806-14

COLLECTIONS:

Ruttger, Goddard and Davis Collections and the Gustafson collection in the Brainerd Court House.

TESTING PROCEDURE:

Surface collecting was done along the shoreline, but permission to excavate was refused. Possible wild rice threshing pits are present within 50m of the shoreline.

COMMENTS AND RECOMMENDATIONS:

This peninsula has suffered extensive inundation by the raised water levels and prehistoric cultural material was collected from all exposed shoreline surfaces. It is recommended that further intensive testing be conducted to determine the integrity and significance of this large area.

21CW23

DESCRIPTION:

This is a peninsula protruding into Cross Lake from the northeastern shoreline. The tip of the peninsula turns northward and then back towards the mainland. The area is sparsely treed and has few scrubs and low grasses.

The Corps of Engineers owns this property and has designated it as "D".

CULTURAL MATERIAL: metal nail

CULTURAL AFFILIATION:

Middle Historic Period. This is a portion of the site of the Crosslake Logging Company headquarters and the terminus of its railroad. With the completion of the Crosslake Dam (@ 1885-6) the main industry, logging, flourished until about 1912. In the late 1800's the Crosslake Logging Company established its own railroad to haul logs to Crosslake where they were dumped into the lake near the site of the present Standard gasoline station. The old logging "Headquarters" is presently marked by a Crosslake Area Historical Society historical marker which is located in the area next to the Crosslake Fire Hall. This Crosslake Logging Company "Headquarters" had an eating and sleeping capacity for 1,400 men. It also included office buildings, blacksmith facilities, large stables, a railroad round house, and warehouses. The area designated as 21 CW - 23 is a log booming area with associated buildings. Because of the proximity of these depressions, the still visible Crosslake Railroad grade, the log dumping area, and the known Crosslake Logging Company Headquarters, further assessment is warranted to determine its eligibility to the National Register.

U. OF M. ACCESSION NO: 804-7

COLLECTIONS:

No collections other than those of the University of Minnesota.

TESTING PROCEDURE:

The site was tested along the top of the eroding bank.

Test #1 - Zone A 0-13 Dark Sandy Humus	Tests #2 and #3 were both negative
Zone B 13-100 Light Sandy Subsoil	50 x 50 cm shovel tests

There was a cellar depression present approximately 5 meters square. Approximately 20 meters east from the east corner of the cellar was another square depression and approximately 20 meters from the northwest wall was a 1 meter square depression. Several other depressions of similar size were present in close proximity. A boom log was found submerged near the shore having a length of 6 meters. The cut end was tapered down & the other end had a 17 link chain secured by a steel staple. Wooden pegs and peg holes were also present. The bottom was flat and there were signs of wear on the log which may have been caused by other chains secured around it. Other sawn logs were found sunken in the bay area.

There were also found sawn timbers which had been notched and secured with 20 penny nails.

COMMENTS AND RECOMMENDATIONS:

This historic site warrants intensive testing. This investigation must also include a check of the bay at the north end of this site as artifacts (old kettles, boom logs, etc.) from the logging era are visible in this shallow water. The adjacent shoreline is severely eroding due to both wind and wave action and while no cultural material was located in these erosional areas, if they are not stabilized they will eventually effect the site.



Figure 50. Site CW23, Corps land area "D", showing possible house depression.



Figure 51. Site CW23, Corps land area "D", showing log dump at east end of Cross Lake.

21CW24

DESCRIPTION:

This site is on the southern shore of the bay area at the entrance to Pine River from Cross Lake. The area is West of the Corp of Engineers Gaging Station and has been developed and landscaped and has a trailer court on it.

CULTURAL MATERIAL: No artifacts

There are 4 intact mounds present measuring 5, 7, 8 and 9 meters in diameter. (18 meters from SE corner of Triler Court Office) The test pits located between the mounds were negative.

CULTURAL AFFILIATION:

Woodland culture of the middle or Late Prehistoric Periods.

U. OF M. ACCESSION NO: 804-8

COLLECTIONS:

No collections other than those of the University of Minnesota.

TESTING PROCEDURE:

Test #1	0-8 cm Dark Sandy Humus	Mound #1
	8-80 cm Mottled Brown Sandy Soil	
	80-100 cm Light Tan Sand Subsoil	

Located at the east edge of the property line and 22 meters from the top of the bank to the north.

Test #2	0-7 cm Dark Sandy Humus	Mound #2
	7-80 cm Mottled Brown Sandy Soil	
	80-100 cm Light Tan Sand Subsoil	

Located 16 meters south of Mound #1

The owner reported that he had removed a mound from the property and a probe sample was taken at that location at its highest point. A buried humus horizon with charcoal was detected at 20 cm below the present surface and a burial is suspected.

COMMENTS AND RECOMMENDATIONS:

This burial site is not being eroded and there are no recommendations for mitigation. Further testing and detailed mapping would be desirable.



Figure 52. Site CW 24. Partially eroded burial mound at top of highest point.



Figure 53. Example of Pine River private collections. This from the Rutger resort.

21CW25

DESCRIPTION:

This island is in Rush Lake between Cross and Lower Whitefish Lakes and is covered with low grasses and is sparsely timbered.

CULTURAL MATERIAL: 2 Ceramic sherds
 2 Lianic Debitage

CULTURAL AFFILIATION:

The small assemblage is diagnostic only of the general Woodland culture.

U. OF M. ACCESSION NO: 804-10

COLLECTIONS:

No collections other than those of the University of Minnesota.

TESTING PROCEDURE:

Cultural material was found in the eroding banks. There were "No Trespassing" signs posted and permission for testing could not be obtained.

COMMENTS AND RECOMMENDATIONS:

Permission to test should be requested and further intensive testing to determine the extent and significance of this site should be conducted as it is currently being eroded by water action.

21CW26

DESCRIPTION:

This collecting area is a well-developed peninsula between Rush and Lower Whitefish Lakes. Portions of the shore have been rip-rapped.

CULTURAL MATERIAL: 2 Lithic Artifacts
 3 Lithic Debitage
 5 Other - Historic ceramic sherds

CULTURAL AFFILIATION:

The lithic materials are diagnostic only of the Prehistoric Era; the Historic ceramics are contemporary.

U. OF M. ACCESSION NO: 804-11

COLLECTIONS:

No collections other than those of the University of Minnesota.

TESTING PROCEDURE:

There has been extensive surface collecting done along the shore of the peninsula which faces Lower Whitefish Lake. It is believed that the site has been inundated. An 1864 map shows that an island, just adjacent to the shore, existed and it is believed that the material came from that location.

COMMENTS AND RECOMMENDATIONS:

This site has been inundated by the raised water levels and has no potential for excavation.

21CW27

DESCRIPTION:

This peninsula is a highly developed resort owned by Joe Ruttger. There are, to date, 19 cabins, a lodge and access roads to the various structures, and it is well landscaped.

The site protrudes from the southern shore NE into Lower Whitefish Lake.

CULTURAL MATERIAL: No artifacts

CULTURAL AFFILIATION: Prehistoric Era; Archaic and Woodland cultures.

U.OF M. ACCESSION NO: 804-13

COLLECTIONS:

Ruttger's Collection contains approximately 50 projectile pts., mauls, axes, and also historic objects.

TESTING PROCEDURE:

A 50 x 50 cm test pit was dug 2.3 meters east from the NE corner of Cabin #7.

Nothing was found in this pit.

0-25cm	Sandy Humus
25-40cm	Brown B Zone Sandy
40-100cm	Pure Sand Light Sandy Subsoil

COMMENTS AND RECOMMENDATIONS:

Survey and testing indicates that the major prehistoric portion of this site has been destroyed and that the scattered and very thin remnants would not warrant intensive testing. The remainder of the site is covered with cabin construction and highly disturbed.

21CW29

DESCRIPTION:

This is the site of a Northwest Company Post on the east side of Upper Whitefish Lake. It is disturbed by construction, has mowed grass, and the shore has been rip-rapped.

CULTURAL MATERIAL: 1 Lithic Artifact
1 Lithic Debitage

CULTURAL AFFILIATION: Early Historic Period; NW Company Post of the late 18th/early 19th century with a possible unidentified prehistoric component.

U. OF M. ACCESSION NO: 804-15

COLLECTIONS:

Happe (Owner) Davis & Goddard Collections

TESTING PROCEDURE:

No sub-surface testing was possible as permission was refused by the land owner. For further information, see D.A. Birk's Preliminary Notes Concerning the Northwest Company Fur Trade Post on Whitefish Lake, Crow Wing Co., Minnesota. Birk includes references to the notes of Lt. Zebulon Pike and Jean Baptiste Perrault concerning the site.

COMMENTS AND RECOMMENDATIONS:

This site has been partially inundated by the raised water levels and while the site is presently rip-rapped, intensive testing should be conducted to determine its eligibility to the National Register.

21CW30

DESCRIPTION:

This is a collecting area on the NE shore of Upper Whitefish Lake that is predominantly sugar sand and easily collectable. There are some low weeds and scrubs, but in general, vegetation is quite sparse. This entire area is redeposited sand.

CULTURAL MATERIAL: 1 Rim sherd
 6 Ceramic body sherds
 6 Lithic Artifacts
 54 Lithic Debitage

CULTURAL AFFILIATION:

This is a multi-component prehistoric site with both a Blackduck and an earlier Middle Prehistoric component.

U. OF M. ACCESSION NO: 804-16

COLLECTIONS: Ruttger and Brosious Collections

TESTING PROCEDURE:

Random shovel tests along the beach revealed only redeposited beach sands - no artifacts. Surface finds came either from the water, or had been washed up on the sand. It is presumed that the site has been inundated.

COMMENTS AND RECOMMENDATIONS:

This site has been inundated by the raised water levels. It is recommended that this site be further investigated in the event that the channel between Arrowhead Lake and Upper Whitefish Lake are dredged. The present channel is manmade and the surrounding area is difficult to assess because of deep sand deposits, some of which may be dredge deposits covering portions at the site that remain intact.

21CW31

DESCRIPTION:

This site is an island at the juncture of Lower Hay and Upper Whitefish Lakes. It has been well developed and has mowed grass.

CULTURAL MATERIAL: 7 Lithic Artifacts
 10 Lithic Debitage
 1 Bone
 3 Other-Historic metal

CULTURAL AFFILIATION:

The lithic and bone objects in the assemblage are diagnostic only of the Pre-historic Era. The metal objects are historic but very recent.

U. OF. M. ACCESSION NO: 804-20

COLLECTIONS:

No collections other than those of the University of Minnesota.

TESTING PROCEDURE:

Surface collecting was done on the point and 3 shovel tests, all negative, were done, 50 x 50 cm, as indicated on the map. There is also a depression which should be tested as it is possibly of historic affiliation.

COMMENTS AND RECOMMENDATIONS:

This site is not being destroyed by water erosion and while further intensive testing is recommended there is no urgency.

DESCRIPTION:

This is an elongated island which lies SW to NE with high eroding banks, few trees, and low grasses. The island is less than 1 acre in size.

CULTURAL MATERIAL: 2 Lithic Artifacts
4 Bones

CULTURAL AFFILIATION: Prehistoric Era

U. OF M. ACCESSION NO: 804-21

COLLECTIONS: Goddard Collection

TESTING PROCEDURE:

Two shovel tests were dug, 50 x 50 cm, but no artifacts were recovered. The artifacts which were found, were from the eroding bank on the western most shore of the island. 0-30 cm Heavy soil deposition 30 cm below, coarse tan gravel.

COMMENTS AND RECOMMENDATIONS:

Only thin and scattered remnants of this site remain and the severe active erosion will apparently destroy this remnant. In view of the paucity of materials remaining in place, no mitigation is recommended.

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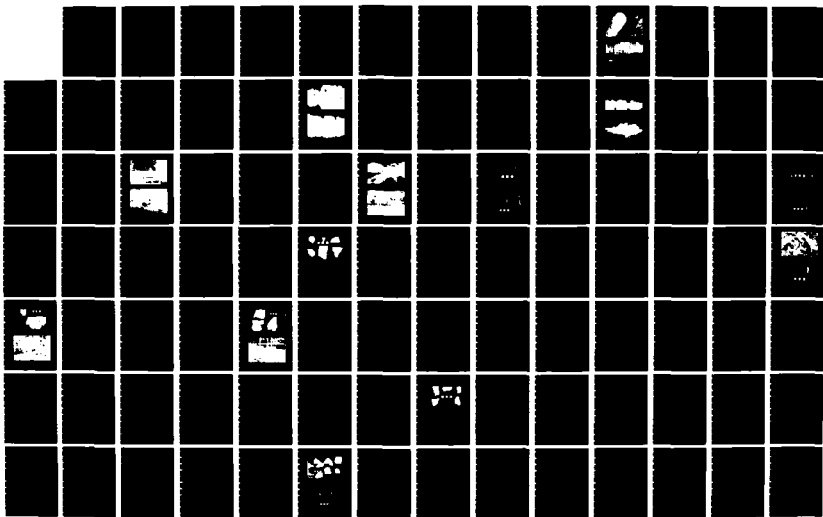
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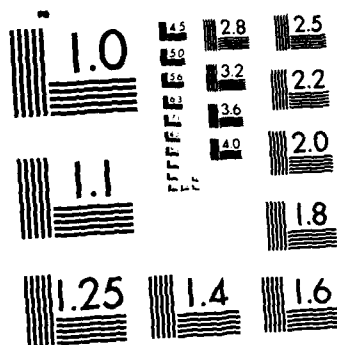
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MICROCOPY RESOLUTION TEST CHART
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DESCRIPTION:

The area is a bulb of land which protrudes NE into the western most bay of Upper Whitefish Lake. It is covered with trees and mowed grass.

CULTURAL MATERIAL: No artifacts

CULTURAL AFFILIATION:

Prehistoric Era but not determinable within that era.

U. OF M. ACCESSION NO: 804-24

COLLECTIONS: Goddard Collection

TESTING PROCEDURE:

Due to the extent of Mr. Goddards Collection taken from the project area, sub-surface testing was deemed unnecessary. There were also sufficient cuts in the banks to judge stratigraphy. Permission to test was refused.

COMMENTS AND RECOMMENDATIONS:

This site is currently not being effected by water erosion but further testing is recommended, if permission is granted, to determine the significance of the site.

21CW34

DESCRIPTION:

This site is the old channel between Big Trout and Lower Whitefish Lakes. It has been heavily constructed and the surface is mowed grass.

CULTURAL MATERIAL: 3 Lithic Artifacts
 4 Lithic Debitage
 Historic ceramics

CULTURAL AFFILIATION:

Both the prehistoric and historic eras are represented at this site. The brown glazed stoneware sherd is post-1860 and may indicate the commercial logging phase. The prehistoric materials lack any ceramics. If this is not due to sampling error, the component falls in the Early Prehistoric Period, but lacking diagnostic artifacts, more precise placement is not possible.

COLLECTIONS:

Informants have stated that there has been extensive collecting of this area, but collections other than those of the University of Minnesota, could not be found.

TESTING PROCEDURE:

No subsurface testing was done because it was impossible to obtain permission. All artifacts were recovered during surface collecting.

COMMENTS AND RECOMMENDATIONS:

This site was reported by Mr. Vern Davis, Cross Lake, Minnesota. This site should be further investigated by an historic archaeologist. No mitigation measures are at this time recommended.

21CW35

DESCRIPTION:

This is now almost an island which is attached by a thin piece of land to the eastern shore of Pig Lake at the entrance to Lower Whitefish Lake.

CULTURAL MATERIAL: 4 Lithic Artifacts
 11 Lithic Debitage

CULTURAL AFFILIATION:

The lithic flakes are diagnostic only of the Prehistoric Era.

U. OF M. ACCESSION NO: 804-26

COLLECTIONS:

Informants reported collections, but none could be found.

TESTING PROCEDURE:

Sub-surface testing was not done in this area due to the fact that the land owner could not be contacted. The surface collecting was done on the western side of the island, which is outside the project area, but the eastern half of the island is inside the project area.

COMMENTS AND RECOMMENDATIONS:

This area should be subjected to intensive testing and possible mitigation measures as the banks are eroding. No permission to test was obtained during the field reconnaissance and therefore the significance of this site must be established. The lithic flake debitage found along the eroding shoreline suggests that this site has been inundated, but only further intensive testing will determine this.

21CW36

DESCRIPTION:

This is a southern protruding peninsula in a western bay off Upper Whitefish Lake. It has been developed.

Cultural Material: No artifacts

CULTURAL AFFILIATION: Prehistoric Era, according to informants.

U. OF M. ACCESSION NO: 804-18

COLLECTIONS:

D.W. King Collection - owner of property

TESTING PROCEDURE:

The land owner would not permit sub-surface testing on his property. And though it has been reported that extensive surface finds have been made, the survey failed to locate any.

COMMENTS AND RECOMMENDATIONS:

This area should be subjected to further investigation if permission to test can be obtained. Also any dredging permits in this area must be subjected to a prior archaeological survey. This area is only showing minor erosion from the raised water level.

DESCRIPTION:

This area is known as Bird Island and has trees and shrubs. The shoreline has been rip-rapped with rock. It is a remnant of the former junction of the Pine River and Upper Whitefish Lake.

CULTURAL MATERIAL: No artifacts

CULTURAL AFFILIATION:

Possibly Prehistoric Era

U. OF M. ACCESSION NO:

COLLECTIONS: Goddard Collection (from western side of island)

TESTING PROCEDURE:

Two shovel tests were done (50 x 50 cm) both of which were negative. Nothing was recovered during the surface collecting.

COMMENTS AND RECOMMENDATIONS:

This island along with the surrounding shoreline has suffered extensive erosion from the raised water level. It is recommended that this area be subject to intensive testing and mitigation if deemed necessary. While our tests were negative, Goddard, a local collector reported always finding artifacts eroding from the banks during low water. This site location was also reported as a collecting area by Douglas Birk, MHS archaeologist. Because of the sites' geographic location, further more intensive investigation is warranted to determine the status of this area.

DESCRIPTION:

This site is on a peninsula which lies SW to NE between Bertha and Upper Whitefish Lakes. It is a collecting area on the eastern shore. The area has been heavily developed and landscaped with trees and mowed grass. There is no erosion of the banks on the shore.

CULTURAL MATERIAL: No artifacts

CULTURAL AFFILIATION: Prehistoric Era

U. OF M. ACCESSION NO: 804-23

COLLECTIONS: Goddard Collection

TESTING PROCEDURE:

Permission for sub-surface testing was refused by the landowner, and surface examination revealed no archaeological features or artifacts.

COMMENTS AND RECOMMENDATIONS:

No further testing is recommended.

PR11 (collection area)

DESCRIPTION:

This area is a heavily constructed sandy beach on a peninsula running east to west between Big Trout and Lower Whitefish Lakes. The shore had eroded badly in the past, but has been rip-rapped and is now stable.

CULTURAL MATERIAL: 1 Lithic Artifact

CULTURAL AFFILIATION: Prehistoric Era

U. OF M. ACCESSION NO: 804-12

COLLECTIONS:

No collections other than those of the University of Minnesota.

TESTING PROCEDURE:

The property owners denied permission for sub surface testing and only one artifact, a chert scraper was found on the surface. Wilford reported a single sherd from this area.

COMMENTS AND RECOMMENDATIONS:

No further testing or mitigation measures are recommended unless channel maintenance is planned and then construction limits and spoil areas should be reinvestigated. Because of the lack of cultural data this site location is only designated as a collection area (State Archaeologist's decision - letter dated October 24, 1978).

PR16 (collection area)

DESCRIPTION:

This site is on a peninsula running SW to NE from the West shore of Upper Whitefish Lake. There is a high shoreline with no visible erosion. The area is well landscaped with no visible archaeological features.

CULTURAL MATERIAL: No artifacts

CULTURAL AFFILIATION: Prehistoric - unknown

U. OF M. ACCESSION NO: 804-17

COLLECTIONS:

No collections could be located.

TESTING PROCEDURE:

The land owner would not give permission for subsurface testing; however, a home was being constructed on the site, but careful examination of the backfill proved fruitless. Informants have conjectured that there may be a possible fur trade post at Hammer's Point.

COMMENTS AND RECOMMENDATIONS:

This area was reported by several informants as a collection area. No state site number has been assigned to this location but it has been noted as a collection area (State Archaeologist's decision - letter dated October 24, 1978).

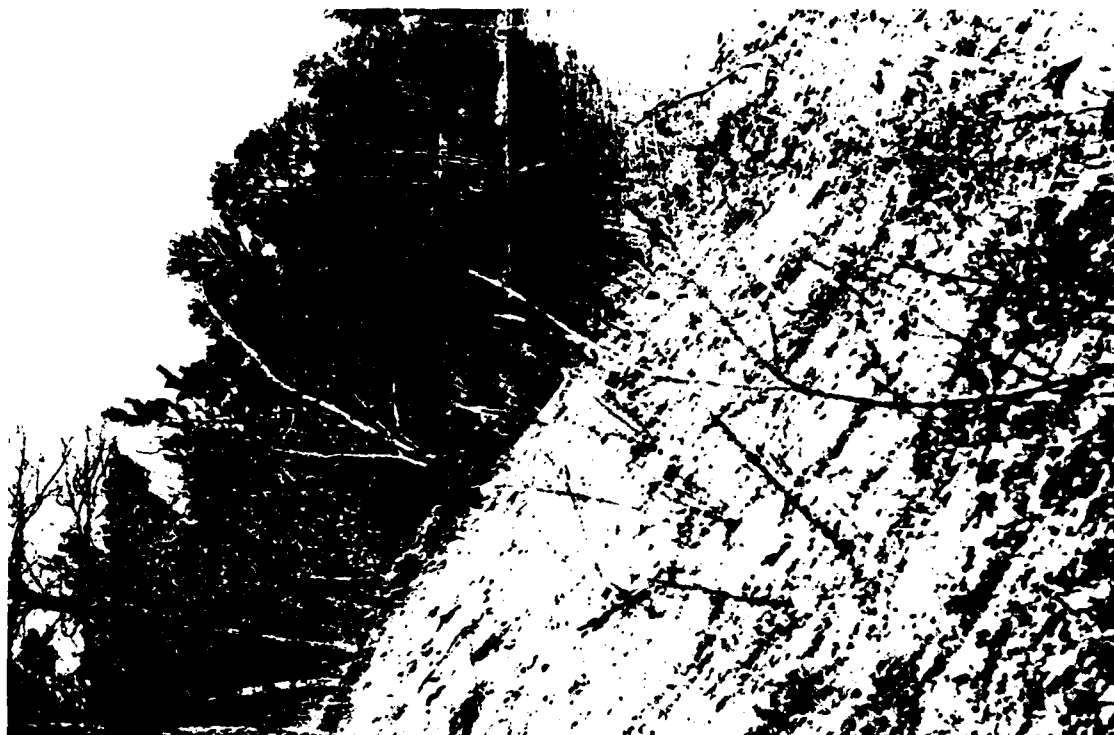


Figure 54. Corps land area "D" illustrating severe bank erosion.



Figure 55. Corps land area "S". Public use area.

Pokegama Reservoir

The Pokegama Lake Reservoir reconnaissance archaeological survey was carried out in the late spring and early summer of 1978 by archaeologists from the St. Cloud Museum of Man under subcontract to the Regents of the University of Minnesota. (University of Minnesota Purchase Order Number F54450).

Lake Pokegama itself is a natural lake, formed as an ice block basin within an area of till and outwash deposits. The U.S. Army Corps of Engineers constructed, and has operated a dam in the Pokegama Falls area since 1884 which has subsequently incorporated Lake Pokegama, Jay Gould, Little Jay Gould, Cutoff, and Blackwater Lakes, as well as a portion of the old Mississippi River channel into the present Pokegama Reservoir. The dam and associated reservoir, originally constructed for water control to benefit river navigation (with additional benefits for logging operations in the area), presently possesses a capacity of some 102,400 acre feet. The normal spring stage pool elevation is 1270.42 feet above sea level, with the dam capable of controlling water level fluctuations of some 6 feet. The upper operating limit of the dam has been exceeded more than 18 times since 1884, and it would appear that rather large fluctuations of water level are fairly common. These fluctuations in water level, and the concomitant effects of erosion and variation in water table levels, continue to have a significant adverse impact on the archaeological resources of the reservoir area.

The 1978 field reconnaissance was directed by Professor Richard B. Lane, St. Cloud State University, with the assistance of Laurie Lucking, a graduate student from the University of Minnesota furnished us by the University. Kent W. Fuhrman and Dale E. Maul, both graduates in anthropology from St. Cloud State University, were employed as field survey assistants by the Museum. Additional help in the field was furnished by Fern E. Swenson and Linda J. Kelly Fuhrman, both of whom are members of the St. Cloud Museum of Man staff, and by students enrolled in the St. Cloud State University archaeological field school -- Michael J. Brick, David F. Flink, Brian E. Gulden, Gregory L. Haggerty, Nancy A. Haggerty, Michael L. Indergaard, John R. Ives, Carolyn J. Jacobs, Emilie A. Lee, Andrea K. LeVasseur, Larry D. Mihm, Gary R. Siltman, Thomas S. Thompson, John R. Tonsager, and Kathleen D. Weidner -- all of whom volunteered their services. The survey staff was housed and headquartered with the field school in the field camp near Cohasset. Field work was carried out between the 12th of June and the 23rd of August, 1978; initial laboratory work was conducted in the field lab and was completed in our museum laboratory on the campus of St. Cloud State University.

What problems were encountered in the process of the survey were primarily either seasonal in nature or climatic. There were a total of 38 days during which measurable rainfall precluded any field survey operation in the period 12 June through 23 August. The rainfall, in addition to slowing the survey, also resulted in rising lake levels throughout the period which made for difficulty in the examination of what would have been either exposed beach sites or sites covered by normally shallow water. The time of the survey corresponded with the period of peak vegetation in the survey area, which caused some problems with the study of upland, undeveloped areas within the zone of research. Although the survey was slowed by these conditions, the results of the survey were not affected by them.

21-IC-5

Description:

This previously recorded site, one of the few known for the area prior to the present survey, is located some 200 meters north of 21-IC-80. It is located on a point of land extending eastward into the channel between Pokegama and Little Jay Gould Lakes. The area rises slowly from the waters edge to about 1.5 meters, at which point there is an erosional bank, and then rises sharply to an elevation of some 10 meters above the present water level. The vegetation cover is mainly basswood, oak and willow with some aspen and maple in the uplands. There is evidence of development, a private home, to the northwest of the site and a dirt road running through the site area paralleling the shoreline.

Cultural materials were recovered from the banks and from the dirt road, sub-surface testing to determine the extent of the site remaining, produced a few additional materials.

Cultural Affiliation: The small sample shows both Prehistoric and Historic Era materials. The Prehistoric cannot be defined more closely. The Historic materials are contemporary.

Collections: University of Minnesota, St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-30-(1-50)

Cultural Material:

The materials recovered from the surface in the course of this present survey included the following:

2 knives: 1 quartzite (broken)
 1 argillite
19 flakes: 2 agate
 1 heat treated chert
 2 argillite
 11 quartz
 2 hematite
 1 quartzite
4 bones fragments

Testing:

Four shovel tests were excavated to a depth of at least 50 centimeters.

Test No. 1, was positive (located near a depression, which may have been from earlier test excavations of the area).

Stratigraphy:

0 - 15 cm. - dark grey, sandy humus
15 - 22 cm. - light brown sand with humic staining
22 - 50 cm. - brown sand
[2 quartz flakes, 11 round nails, 7 nail fragments, and 1 shotgun shell casing were found in the 10 - 15 cm. level]

Test No. 2, was negative. Stratigraphy:

0 - 15 cm. - dark grey, sandy humus
15 - 35 cm. - tan sand with rust colored mottling
35 - 50 cm. - tan to brown sand

Test No. 3, was positive. Stratigraphy:

- 0 - 10 cm. - dark grey, sandy humus
- 10 - 15 cm. - tan sand with humic staining
- 15 - 50 cm. - brown sand
- [3 quartz flakes found in the 10 - 15 cm. level]

Test No. 4, was negative. Stratigraphy:

- 0 - 12 cm. - dark grey, sandy humus
- 12 - 18 cm. - tan sand with humic staining
- 18 - 50 cm. - tan to brown sand

Discussion and Recommendations:

From the materials recovered in the present survey it is apparent that the site still maintains some integrity, but erosion and public use are damaging the area. The proximity of paved roads and the probability of more development would indicate that the rapidity of site destruction will only increase unless mitigation is undertaken.

21-IC-38

Description:

The site area is located on a partially developed area on the western shore of Jay Gould Lake. It is privately owned, and the owner has done some construction and landscaping but he is also attempting to preserve the integrity of what is left undisturbed. Vegetation, in the undisturbed areas, consists of oak, maple, birch and basswood with some pine. A private walking trail, the "Lone Pine Trail", parallels the shoreline. On the shoreline is a narrow beach with an erosional bank of 1.5 to 3 meters parallel to the shore, rising slowly to the north and east to a maximum elevation of between 6 and 7 meters above the present lake level.

Cultural materials were found in the shallows, on the eroding banks, and along the cleared and partially eroding walking trail. The land owner refused permission to conduct subsurface tests on his property, but did allow a surface collection to be made.

The site area is owned by Mr. Arne S. Ingebo, of Cohasset.

Cultural Affiliation: Lake Prehistoric Period; Blackduck culture, Late Historic Period; contemporary

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-45-(1-377)

Cultural Material:

In addition to the surface materials collected from the shallows, eroding banks, and walking trail and described below, some 6 depressions (probable ricing pits) were noted parallel to the shoreline and between the shore and the walking trail. The surface material collected consisted of:

8 flakes: 4 quartz
 2 argillite
 1 quartzite
 1 agate
 249 sherds (245 of which were found together and appear to be from a single, Blackduck, vessel)
 109 bone fragments
 5 mammal (?) teeth fragments
 8 historic/recent items
 6 brick fragments
 2 rusted, unidentifiable, iron fragments

Testing: The landowner refused us permission to conduct subsurface testing.

Discussion and Recommendations:

The presence of diagnostic Blackduck materials in association with undisturbed features (the probable ricing pits) argues for a site of some importance in developing an understanding of the late prehistoric human exploitation of the Jay Gould area.

The presence of material in the shallows and eroding from the banks indicates that some of the site has been destroyed, but the remainder seems to be well cared for by the present owner. Subsurface testing is definitely recommended,

with the possibility of wide scale excavation if the site is discovered to be of significance equal to or greater than that indicated by the surface reconnaissance.

21-IC-48

Description:

The site is located on the eastern (southern) banks of the Mississippi River between Jay Gould Lake and the town of Cohasset. The area is partially developed, with a dirt road paralleling the river at this point and two homes at either end of the site area. The site itself is covered in oak, basswood, birch, aspen, poplar, various grasses and poison ivy and consists of an eroding bank at the river edge, varying in elevation above water level between 2 and 3 meters, which rises slightly toward the southeast where it meets the dirt road.

Cultural material were recovered from an area some 5 meters in diameter in the shallows and from the surface of the dirt road.

Cultural Affiliation:

Middle or Late Prehistoric Periods; cannot be more closely defined.

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-37-(1-7)

Cultural Material:

The materials recovered in the surface collection consisted of lithic debris found in the shallows and ceramic material found on the upper terrace in the dirt road.

5 flakes: 1 quartz
3 quartzite
1 argillite

2 ceramic sherds: 1 fragment of modern ceramic
1 cord-marked body sherd

Testing: We were denied permission to test the area.

Discussion and Recommendation:

The presence of the single body sherd, and lack of any diagnostic material, suggests that a Middle or Late Prehistoric context may be as close as the site can be assigned to any specific cultural period. The location of the cultural material recovered, both in the shallows and on the upland terrace, suggests that a site may be present in the area. The proximity of 21-IC-64 would also be of significance in recommending that intensive subsurface testing of this area be carried out.

21-IC-49

Description:

The site is located in a developed area on a narrow strip of land between Pokegama and Hale Lakes. A group of modern residences are located on the inland terrace, rising up to 5 meters above the present lake level, behind a beach which averages about 5 meters in width. The area has been landscaped, and what large vegetation does exist consists of secondary white pine, maple, and birch. There is a paved road roughly paralleling the site area, as well as access roads to the individual homes and cabins.

A scatter of prehistoric cultural materials were found within a 40 meter area on the erosional surface of the bank. No materials were located in the shallows or, through subsurface testing, on the inland terrace.

The bank area, extending some 500 meters parallel to the shoreline in this area, is subject to only slight erosion.

Cultural Affiliation: Late Prehistoric Period, Blackduck culture.

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-4-(1-13)

Cultural Material:

Thirteen items were recovered from the surface of an eroding bank within a 40 meter area, these consisted of:

- 6 flakes: 3 quartz
 2 chert
 1 agate
- 2 ceramic sherds: 1 rim (Blackduck)
 1 body
- 3 bone fragments
- 1 fossilized brachiopod, perhaps showing human utilization
- 1 ceramic white-ware fragment (historic/recent)

Testing:

Four shovel tests, roughly paralleling the bank area where the cultural materials had been recovered, and placed in what appeared to be the least disturbed areas were excavated on a line approximately 2 degrees west of magnetic north. All tests were negative.

Test No. 1, stratigraphy:

- 0 - 15 cm - mixed grey, brown and reddish sands
- 15 - 40 cm - homogeneous reddish/brown sands

Test No. 2, stratigraphy:

- 0 - 14 cm - mixed grey, brown and reddish sands
- 14 - 42 cm - homogeneous reddish/brown sands

Test No. 3, stratigraphy:

- 0 - 5 cm - root zone, humus
- 5 - 8 cm - humic stained sand
- 8 - 14 cm - grey sands
- 14 - 40 cm - homogeneous reddish/brown sands

Test No. 4, stratigraphy:

- 0 - 6 cm - root zone, humus
- 6 - 10 cm - humic stained sand
- 10 - 15 cm - grey sands
- 15 - 40 cm - homogeneous reddish/brown sands

Discussion and Recommendations:

The range of materials (lithic, ceramic, and organic) would tend to indicate the presence of a habitation site. The sparsity of materials may indicate either a short-term camp site, or it may be a function of post occupation disturbance of the site. The stratigraphic evidence derived from the subsurface testing would indicate the latter as most probable.

And test pits 1 and 2 were both truncated, that is they did not possess the normal upper level soil horizons. This coupled with both the road and home construction would indicate that the upper soil zones have been removed from a rather large area, and these zones may well have contained the site material. The lack of cultural material in the shallows would preclude erosion as the reason for site destruction. The presence of a normal soil profile at the southern end of the test line might argue, although the tests put in were sterile of cultural material, that some portions of the site may remain undisturbed.

Slight erosion was observed for the area, but the danger to any site on the inland terrace seems minimal. Wider scale subsurface testing than could be accomplished on this survey might be useful in demonstrating whether any of the site is left further inland.



Figure 56. Site IC50. Site on Windigo area showing eroding bank.



Figure 57. Site IC49. General view of site shoreline.

21-IC-50

Description:

The site is located in a developed area between a small resort to the north and a low-lying marsh to the south, on the southern end of the Wendigo Arm, Lake Pokegama. The shoreline, running generally from northeast to southwest in this area, has been riprapped at the northern end, near the resort, while the remainder has been roughly landscaped. A bank, ranging in elevation from 1.5 to 5 meters above waterline, generally parallels the shoreline and is actively eroding and slumping in a number of areas.

A thin scatter of flakes were found eroding from a 10 meter area of bank slumpage. Nothing was found in the shallows and subsurface testing on the landward side proved negative.

Cultural Affiliation: The assemblage is diagnostic only of the Prehistoric Era.

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-1-(1-4)

Cultural Material:

A total of four flakes were recovered on the surface from a 10 meter area of bank slumpage.

4 flakes (total): 2 quartz
2 quartzite (1 retouched)

Testing:

Four shovel tests, placed at 15 meter intervals in a north-south line on the upland terrace above the bank where the flakes were found, were excavated to a depth of at least 90 centimeters. All tests proved negative.

Typical stratigraphic profile:

0 - 20 cm - humus and dark, humic stained sand
20 - 40 cm - mixed humic stained and grey sand
40 - 90+ cm - homogeneous reddish/brown sand

Discussion and Recommendations:

The presence of lithic debitage in the area indicates the possibility of a prehistoric occupation, but the lack of diagnostic materials precludes any dating of that occupation. The sterility of the test pits would indicate that the landscaping and construction which has taken place in the area has most probably destroyed the site.

Description:

The site is located in a residential area on the north shore of the eastern end of the Wendigo Arm, between Pokegama and Hale Lakes. The beach, in this area, averages about 3 meters in width with a low terrace inland, rising to a maximum elevation of about 4 meters above present waterline at the northwestern edge of the site. The shoreline areas at the time of the survey were covered with secondary growth, primarily in poison ivy and small birch. Inland vegetation consisted of lawn grass and, in non-landscaped areas further inland, mature birch, maple, poplar, white and red pine. There was only slight erosion of the banks in this area.

Some prehistoric materials were found in the shallows and in both landscaped and eroding areas. Historic materials, found during the construction of the landowner's house, were shown us by the owner. Footings from a saw mill, and portions of a logging trail, are still visible south of the modern home.

Cultural Affiliation: Middle Historic Period saw mill; Woodland culture component.

Collections: C.H. Kleffman, Grand Rapids; St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-3-(1-7)

Cultural Material: Kleffman reports that the historic materials were all recovered during the excavation and landscaping of his home. The collection included:

- 1 ceramic insulator
- 1 glass whiskey bottle
- 1 axe
- 1 logging hook
- 1 boot clip
- numerous fragments of both chains and saws

The prehistoric materials, all found on either the surface or in the shallows during the course of the present survey, consisted of:

- 4 flakes: 3 quartz
- 1 quartzite
- 3 ceramic body sherds: 1 cord-wrapped paddle decorated
- 2 worn/exfoliated

Testing:

Three shovel tests were excavated to a depth of at least 50 centimeters. All tests proved negative.

Test No. 1, stratigraphy:

- 0 - 9 cm - dark grey, sandy humus
- 9 - 50+ cm - homogeneous medium brown fine sand

Test No. 2, stratigraphy:

- 0 - 22 cm - dark grey, sandy humus
- 22 - 42 cm - mottled humic stained and brown sand
- 42 - 50+ cm - light brown silty sand

Test No. 3, stratigraphy:

- 0 - 6 cm - dark grey, sandy humus
- 6 - 8 cm - brown sand
- 8 - 19 cm - grey sand and clay mixture
- 19 - 32 cm - blue-grey clay mixed with sand
- 32 - 38 cm - blue-grey clay, sand, and wood fragments
- 38 - 52 cm - decaying, water-logged wood
- 52 - 56 cm - homogeneous brown sand

Discussion and Recommendations:

The historic component of this site area is, most probably, the remains of W.R. Roman's Saw Mill - which dates to 1904. This has been disturbed by the modern construction of the Kleffman home, but seems in no danger of further destruction. The homeowner gave no indication of any plans for future surface modification and there is little or no danger of erosion.

The evidence for the prehistoric component, found only in the shallows or else in surficial situations, indicates that the prehistoric site may have already been destroyed. This may have been by erosion, or by the construction and/or industrial activity associated with the saw mill.

21-IC-52

Description:

This site is located on the northern shore of the Wendigo Arm of Lake Pokegama. The beach varies in width from 1 to about 5 meters, with an inland terrace rising behind it and ranging as high as 10 meters above the current lake level. The terrace vegetation consists of white pine, maple, fir, and birch extending almost to the waters' edge. There is a large amount of new construction being undertaken northeast of the site area.

Flakes were recovered from an eroding bank, found relatively concentrated within a 3 meter area. Nothing was found in the shallows.

The bank is being subjected, in some areas, to rather slight erosion.

Cultural Affiliation: The small assemblage is diagnostic only of the Prehistoric Era.

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-8-(1-4)

Cultural Material: Four flakes were found on the surface of an eroding bank, in the slumping material.

4 flakes: 3 quartz
1 agate

Testing: Permission was denied for any subsurface testing of the area.

Discussion and Recommendations:

The presence of flakes, without any other associated materials of a more diagnostic nature, eroding out of a bank may indicate the presence of a site in the area. Without further testing, particularly of the subsurface of the inland terrace which seems relatively undisturbed at present, little more may be said. The lack of materials in the shallows and the slight erosion currently taking place would lead to the suspicion that if a site is present in the area, it may well be relatively undisturbed.



Figure 58. Site IC52. General view of developed shoreline.



Figure 59. Site IC53. North end of Windigo Island.

Description:

The site is concentrated in the southwestern half of a small, triangular island in the Wendigo Arm of Pokegama Lake. The low, sandy beach ranges in width from 10 meters at the northeastern shoreline to less than 2 meters at the southwestern island margin. The island slopes upward, from northeast to southwest, some 2 meters to form an actively eroding bank on the western shore. The primary vegetation cover is high grass, with some birch, basswood, and willow in the central portion of the island.

Flakes were recovered from the shallows, beach, and eroding banks. Testing of inland areas produced bone fragments and a possible feature.

The island is owned by Mr. Richard Hickman of rural Grand Rapids

Cultural Affiliation: Late Prehistoric

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-10-(1-65)

Cultural Material: Thirty-two items were recovered from the shallows, beach and eroding banks. Numerous bone fragments were noted eroding out of the exposed banks which were not collected.

13 flakes: 5 quartz
5 quartzite
2 chert
1 heat treated chert

1 ceramic body sherd
18 bone fragments

Testing:

Five shovel tests were excavated to varying depths. Two of these tests produced bone material or soil anomalies which may be indicative of the presence of a site.

Test No. 1, was negative. Stratigraphy:
0 - 15 cm - dark grey, sandy humus
15 - 40 cm - light brown sand with humic stain mottling
40 - 45+ cm - reddish brown clay

Test No. 2, positive and may well be a portion of a feature.
[At 12 cm below the surface bone and charred wood appeared in the northeast corner of the test pit, a compactional difference in the soil was also noted between the northern and southern portions of the exposed surface. Coring indicated the depth of the 'feature' to be 45 cm below the surface in the northeastern section of the pit, whereas sterile brown sands and clays were found in the southern portion. The feature was not completely exposed nor was it excavated during the course of the survey] Stratigraphy:

0 - 12 cm. - dark grey, sandy humus
12 - 45 cm. - brownish black 'fill', in northern test pit
12 - 35 cm. - light brown sand with humic staining, in southern portion of test pit
35 - 45+ cm. - reddish brown clay, in southern portion of test pit

Test No. 3, was negative. Stratigraphy:

- 0 - 15 cm. - light brown beach sand
- 15 - 22 cm. - reddish brown clay
- 22 cm. - water level

Test No. 4, positive. Stratigraphy:

- 0 - 15 cm. - dark, greyish-brown sandy humus
- 15 - 40 cm. - light brown sand with some humic staining
- 40 - 60 cm. - reddish brown clay
- [11 bone fragments, small particles of charcoal, and 1 .22 shell casing were encountered at a depth of 10 cm. below the surface]

Test No. 5, was negative. Stratigraphy:

- 0 - 15 cm. - dark grey, sandy humus
- 15 - 25 cm. - light brown sand with some humic staining
- 25 - 45 cm. - reddish brown clay

Discussion and Recommendation:

The presence of both ceramic and lithic materials, albeit undiagnostic, in the shallows and on the beach coupled with what may be a feature (fire pit? storage pit?) in an undisturbed part of the island argue for the presence of a pre-historic habitation site. Evidence that a portion of the site has already been eroded should not preclude at least widescale excavation of the undisturbed portion of the site. The continuing severe erosion of the island suggests that mitigation, involving at least more intensive testing, should be undertaken as soon as possible.

21-IC-54

Description:

The site is located in a Boys Camp (Mishawaka) on the eastern shore of Lake Pokegama between the Wendigo Arm and King Bay. The beach varies between 3 to 5 meters in width and joins an actively eroding bank between 1 and 2 meters in elevation on the inland terrace. The terrace is low, rising to the 1300' contour at a distance of some 60 meters from the current shoreline. The site area is developed, with numerous cabins, "dorms", and other camp associated structures present in the area - most of these are, however, without foundations or basements and have not disturbed the subsurface to any apparent extent. Lawn grass, with willow and birch predominate as the vegetation cover.

Cultural materials were recovered eroding from the low banks near the shore as well as in the subsurface tests conducted further inland. Both natural erosion and human activity in the area rapidly destroying the site.

Cultural Affiliation:

Multicomponent; an undefined Middle or Late Prehistoric component with an overlying Middle Historic component.

Collections: Camp Mishawaka (one hammer stone, grooved) St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-18-(1-90)

Cultural Material: 72 items, both historic and prehistoric, were recovered from areas of bank erosion. Although nothing was found on the beach or in the shallows, subsurface testing on the inland terrace produced flakes and sherds. The surface collection included:

- 1 argillite knife, bifacially flaked
- 41 flakes: 28 quartz
 - 8 quartzite
 - 3 argillite
 - 2 chert
- 1 quartz core
- 3 bone fragments (1 metacarpal, possibly bison sp., and 2 unidentified fragments)
- 10 historic ceramics (9 white-ware, 1 glazed)
- 6 historic glass fragments
- 11 historic metallic items (wire fragments, chain link, bolt, axe, and unidentifiable corroded/oxidized fragments)

Testing:

Four shovel tests were placed on the inland areas where disturbance appeared to be minimal. Three of the tests produced evidence of past human activity.

Test No. 1, was positive. Stratigraphy:

- 0 - 5 cm. - blackish brown, sandy humus
- 5 - 13 cm. - reddish brown sand with some humic staining
- 13 - 50+ cm. - homogeneous fine red sand

{cultural materials recovered in first 5 cm. of "topsoil":

- 4 flakes: 3 quartz
- 1 heat treated chert

8 ceramics: 7 body sherds (cord marked)
 1 exfoliated body sherd
 2 metal items: 1 round nail
 1 fragment of round wire]

Test No. 2, was positive. Stratigraphy:
 0 - 5 cm. - blackish brown, sandy humus
 5 - 31 cm. - reddish brown sand
 31 - 42 cm. - homogeneous, fine light tan silt
 [4 flakes were found in the first 5 cm. of "topsoil"]

Test No. 3, was positive. Stratigraphy:
 0- 1.5 cm. - blackish brown, sandy humus
 1.5 - 25 cm. - reddish brown sand with some humic staining
 25 - 45 cm. - homogeneous fine red sand
 [fire-cracked rock found in the upper 5 cm.]

Test No. 4, was negative. Stratigraphy:
 0 - 11 cm. - blackish brown, sandy humus (relatively compact)
 11 - 20 cm. - reddish brown sand with some humic staining
 20 - 55 cm. - reddish sand, with increasing pebble content in lower
 portion of profile

Discussion and Recommendations:

The lack of diagnostic materials in prehistoric component of the site preclude cultural or temporal affiliation with any degree of precision. The ceramics would tend to indicate a late prehistoric time frame for the early occupation of the site. Informants suggest that the historic occupation occurred during the latter part of the 19th Century and consisted of a Chippewa camp. The reworking of a glass bottle fragment into a scraper would tend to lend some credence to this interpretation.

The present extent of the site, an area approximately 80 meters in length - parallel to the present shoreline - and 35 meters in width, and the partial truncation of the surface, as indicated by the shallow humus zones in the positive test pits, indicates that the culture bearing levels are threatened with rapid destruction. The serious erosion of the banks and the human activities of the boys camp further add to the need for rapid mitigation of the site. The relative shallowness of the cultural materials below the existing land surface would make complete excavation of the site area feasible.

21-IC-55

Description:

The site is located on a sandspit extending southward from Chisolm Point between King Bay and Pokegama Lake. The spit is low, with swampy margins and a fairly heavy growth of willow and poplar in the landward areas.

Cultural materials were found in the shallows, but no materials were present on either the beach or eroding out of the banks to the north of the spit. Testing proved negative.

The site is subject, at present, to moderate erosion.

The area is presently, at the time of the survey, owned by the Y.W.C.A. but is in the process of being sold to a land developer.

Cultural Affiliation:

Prehistoric Era; there are no diagnostic artifacts in the small sample.

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-19-(1-21)

Cultural Material:

All recovered material was found in the shallows, and was seemingly concentrated in two areas on the southern and western margins of the spit. The collection, all lithic, included:

1 scraper (chert)
20 flakes: 13 quartz
6 chert
1 quartzite

Testing:

Three shovel tests were placed in inland areas of the spit where it was judged that undisturbed soils might still be present. All tests were negative, and showed no normal soil development. Typically, each test showed beach sand from the surface, to the level at which water was encountered.

Discussion and Recommendations:

Again, the lack of diagnostic materials forces the rather general assignment of this site to a prehistoric period. The lack of ceramics may be a function of sampling error, or it may indicate a pre-ceramic occupation in the area. The absence of cultural materials on the beach or in the banks of the inland terrace to the north would tend to indicate that the site has probably already been destroyed. Further testing, in the uplands (beyond the scope-of-work) might prove useful.



Figure 60. Site IC55. YWCA camp, south tip.



Figure 61. Site IC56. Stony Point with eroding bank.

21-IC-56

Description:

The site is located in a developed area of seasonally occupied cabins near the western shore of Stony Point in Pokegama Lake. The land has been cleared of large vegetation except for mature birch and maple. The shoreline is rocky, with a sandy beach ranging between 3 and 5 meters in width. A steep bank, with an erosional face from 2 to 5 meters in height above current lake level, rises toward the east to a maximum of about 13 meters above the shoreline. The cabins are without foundations or basements so the disturbance of the upper levels is minimal.

Cultural materials were recovered from an area of bank erosion. The area is known to local collectors who have recovered copper points, stone projectile points, and ceramics from the bank and associated beach.

The area is being subjected to erosion and to continued development.

Cultural Affiliation:

Multicomponent - Early Prehistoric Old Copper; Lake Prehistoric Blackduck and Sandy Lake - identifiable through collections other than our own from the site area)

Collections: John Marshall, Grand Rapids, St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-21-(1-14)

Cultural Material:

Our surface collection of the site area yielded 14 items, recovered from eroding bank and shallows. The subsurface testing proved negative, and no materials were recovered from the beach.

- 1 argillite core
- 5 flakes: 4 quartz
1 quartzite
- 8 ceramic body sherds: cordmarked

The John Marshall collection contained diagnostic ceramics, both Blackduck and Sandy Lake, as well as copper materials which appear to belong to the Archaic culture.

Testing:

Five shovel tests were excavated to a depth of 50 centimeters in the upland area of the erosional bank. All tests were negative.

Test No. 1, stratigraphy:

- 0 - 10 cm. - dark grey, sandy humus
- 10 - 18 cm. - light brown sand with humic staining
- 18 - 50 cm. - homogeneous medium brown sand

Test No. 2, stratigraphy:

- 0 - 12 cm. - light brown sand with humic staining
- 12 - 50 cm. - medium brown sand and clay mixture

Test No. 3, stratigraphy:

- 0 - 10 cm. - dark grey, sandy humus
- 10 - 23 cm. - light brown sand with humic staining
- 23 - 50 cm. - homogeneous medium brown sand

Test No. 4, stratigraphy:

- 0 - 12 cm. - dark grey, sandy humus
- 12 - 17 cm. - light brown sand with humic staining
- 17 - 50 cm. - medium brown sand, increasing clay content in lower portion of profile

Test No. 5, stratigraphy:

- 0 - 20 cm. - dark grey, sandy humus
- 20 - 30 cm. - medium brown sand
- 30 - 50 cm. - medium brown sand and clay mixture

Discussion and Recommendations:

The testing indicates, although sterile of cultural material, that there are some undisturbed areas present. The truncation of the normal profile in Test 2 indicates a grading operation while the heavy topsoil layer over a truncated profile in test 5 indicates filling. The location of recovered materials, from erosional surfaces and shallows indicates that at least a portion of the site has already been destroyed.

The amount of materials in private collections, and the range through time of these materials, would indicate that the site could be an important one. The erosion and construction activities, however, would suggest that most of the site has been destroyed. The presence of still undisturbed soils in the general area of the site would argue for more intensive testing than could be accomplished during the present survey.

21-IC-57

Description:

The site is in a highly developed area on the south shore of Salter Bay in Pokegama Lake. The area is lowlying, only 1.5 meters above current lake level, and has been cleared of vegetation. It is mowed periodically and has been landscaped or else used as a fill source/black dirt source. Although an ideal spot, and an area that informants stated was the main historic Chippewa migration route between Pokegama and Sugar Lakes, all subsurface testing was negative.

Cultural materials were recovered from the shallows and the beach. No materials were found in either the banks or the inland terrace area.

Cultural Affiliations: Prehistoric Era; possibly Early Prehistoric Period.

Collections: St. Cloud Museum of Man, 1978

SCMM Accession No.: 106-25-(1-62)

Cultural Materials:

All the material recovered was found either in the shallows or near the waters edge on the present beach. The collection, all lithic in nature, consists of:

- 1 projectile
- 3 cores, quartz
- 57 flakes: 48 quartz
 - 4 jasperite
 - 1 quartzite
 - 1 argillite
 - 1 chert
 - 2 agate

Testing:

Three test units were excavated, all of which proved negative and were sterile of cultural debris.

Test No. 1, negative. Stratigraphy:

- 0 - 12 cm. - light brown silt
- 12 - 22 cm. - light brown sand
- 22 - 70 cm. - dark brown beach sand
- 70 cm. - water level

Test No. 2, negative. Stratigraphy:

- 0 - 2 cm. - dark grey, sandy humus
- 2 - 12 cm. - light brown sand with humic staining
- 12 - 36 cm. - reddish-grey sand and clay mixture
- 37 - 50 cm. - grey drift

Test No. 3, negative. Stratigraphy:

- 0 - 10 cm. - dark grey, sandy humus mottled with brownish-grey clay
- 10 - 40 cm. - grey clay

Discussion and Recommendations: The effects of development and continued moderate erosion in the area seem to have resulted in the destruction of any portion of the site that may have existed above the level of the current lake surface. The location of the recovered materials, in the shallows and at the water's edge, would indicate that any of the site which might remain is most probably underwater at present.



Figure 62. 21IC57. Surface collecting in Sugar Bay.



Figure 63. Testing site 21IC77.

21-IC-58

Description:

This site is located in a low lying, developed area on the shore of Sugar Bay in Pokegama Lake. Originally a pasture, it has been converted to a resort and is currently being developed by a consortium of Grand Rapids landowners. A marina area has recently been dredged and further development is planned. The current vegetation cover consists of lawn grass with a few mature birch and oaks. Cultural material was recovered on the beach and in the low, eroding banks to the shoreward.

The site is known to local collectors, and diagnostic materials from the site were viewed in some of these collections.

Cultural Affiliation: Lake Prehistoric Periods, Blackduck culture.

Collections: William J. Marshall, Grand Rapids
St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-26-(1-53)

Cultural Material:

All the recovered material consists of surface finds located on the beach and in the eroding bank areas, and consists of:

- 1 projectile point fragment, chert
- 46 flakes: 15 quartz
- 13 quartzite
- 8 chert
- 7 argillite
- 2 jasperite
- 1 shale
- 1 ceramic body sherd, exfoliated
- 3 bone fragments

Testing: Permission to test was not granted.

Discussion and Recommendations:

The materials recovered in our surface collection, in a context indicating they were eroding out of the bank rather than from underwater, are indicative of the presence of a site. Materials viewed in the Marshall collection included diagnostic Blackduck ceramics.

The combination of increasing development and current moderate erosion put the site in danger. Extensive, as well as intensive, wide-scale subsurface testing should be conducted to determine the spatial limits of the site as well as to determine the present status of subsurface cultural materials.



CM

Figure 64. Site IC 54. Broken lithic blade.



CM

Figure 65. Lithic artifacts. Site IC 58, plane point and two broken biface knives.

21-IC-59

Description:

The site is located in a highly developed area of Pokegama Lake south of Meyers Bay. The beach is between 2 to 5 meters in width and rises rapidly, with an erosional bank some 10 meters high, to the east. Numerous homes, with landscaping, foundations, and basements present, are found on the upland above the erosional face. Vegetation, other than lawns surrounding the home, is light and consists of shrub and aspen on the banks, with some mature birch and maple on the uplands.

Cultural materials were found in the shallows and on the eroding bank. Nothing was found on the beach itself, and permission to conduct subsurface testing in the uplands was refused.

Cultural Affiliation:

Multicomponent; Prehistoric Era; indeterminate culture; Historic Era, Late Historic Period.

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-27-(1-22)

Cultural Material:

The surface collection showed an interesting pattern in that all the prehistoric materials were found in the shallows and all the historic material was found in the eroding banks. The collection consists of:

9 flakes (found in the shallows):

6 quartz

2 chert

1 heat treated chert

13 historic ceramic fragments (found in eroding banks):

9 whiteware fragments

3 crockery fragments

1 broken cup fragment

Testing: Permission to test was refused.

Discussion and Recommendations:

This site was recorded by Brew in 1973 and is known to local collectors. The evidence of severe erosion, coupled with the spatial distribution of prehistoric and historic cultural materials, leads to the suspicion that the prehistoric site component may well have been destroyed or else is currently underwater whereas the historic component (spatially separated and distinct in its area) may still exist in the upland areas.

Subsurface testing should be conducted in the upland area in order to determine the presence and spatial limits of the possible historic site component.

Description:

The site is located in an area that was being developed as a Township Park prior to and during the course of the survey, near the northwestern boundary of Pokegama Lake and some 300 meters south of the channel leading to Little Jay Gould Lake. The beach, composed of coarse, brown sand, rises at an angle of about 20° from the waterline and extends between 3 to 9 meters inland to a bank which rises some 5 meters at an angle of about 70°. The upland surface has been graded in some areas for a parking lot and for the development of an access road to the beach. Gravel fill has been brought in to cap the parking area. The site area is roughly bounded by heavy secondary mixed hardwood forest cover on the north and south and on the west by a paved county road.

Cultural material was recovered in the shallows, on the beach, on the eroding surface of the 5 meter bank, and in subsurface testing in the uplands. We were informed that many of the earlier construction workers on the park area had taken materials from the site.

Cultural Affiliation:

Multicomponent; Prehistoric and Historic Eras - possibly entire sequence.
(Archaic through Historic)

Collections: Various unknown construction workers, St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-28-(1-447)

Cultural Material:

The surface collections, recovered from the shallows, beach, and erosional banks, showed no pattern or concentration. Materials were fairly evenly distributed, perhaps as a function of the landscaping/earthmoving activity which had taken place prior to our survey. The collection includes:

3 projectile points:	1 chalcedony
	1 argillite
	1 agate
2 knives:	1 sugar quartz
	1 chert
2 scrapers:	1 chert
	1 agate
309 flakes:	196 quartz
	1 agate
	42 quartzite
	15 argillite
	26 chert
	1 sugar quartz
	5 heated treated chert
	1 slate
	4 jasper
	1 moss agate
	3 white agate
	2 chalcedony
	2 dolomite (?)
2 utilized flakes:	1 hematite
	1 jasperite

12 - 35 cm. - light brown sand with humic staining, in southern portion
of test pit
35 - 45+ cm. - reddish brown clay, in southern portion of test pit

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1 chopper: quartzite
62 ceramic sherds:
 2 rims
 31 body sherds - net impressed
 3 body sherds, undecorated
 27 body sherds, exfoliated
1 bear canine - amulet
45 bone fragments
11 historic material items:
 5 whiteware ceramic fragments
 1 crock fragment
 1 piece of fused glass
 4 metallic items

Testing:

Four shovel tests were excavated, all of which were positive despite the fact that at least one of the tests was in an area that had been disturbed by recent park construction.

Test No. 1, was positive. Stratigraphy:

0 - 8 cm. - dark grey, sandy humus
8 - 30 cm. - tan sand with pebble and rock components
[Quartz flake found at 5-8 cm. level]

Test No. 2, was positive. Stratigraphy:

0 - 8 cm. - dark grey, sandy humus
9 - 13 cm. - brown sand with humic staining
13 - 28 cm. - homogeneous tan sand
28+ cm. - bedrock

Test No. 3, was positive. Stratigraphy:

0 - 10 cm. - dark grey, sandy humus
10 - 20 cm. - tan sand with humic staining
20 - 50+ cm. - homogeneous tan sand
[3 flakes, 1 quartz, 1 quartzite, 1 argillite, found in the
5 - 10 cm. level]

Test No. 4, was positive. Stratigraphy:

0 - 5 cm. - sod/ recently placed/ root zone
5 - 18 cm. - dark grey to black sandy humus
18 - 31 cm. - tan sand with boulders at lower end of profile.
[2 quartz flakes found at 10-15 cm. level]

The Test No. 2 excavation unit did not produce cultural materials, but did contain, at the 8 - 13 cm. level, fragments of charred wood and the phalanx of an animal.

Discussion and Recommendations:

The site area, despite the effects of park construction and continuing moderate erosion, still seems to possess a large area which is undisturbed at least to the depth at which some cultural materials are being found. The range of materials recovered, in terms of both form and function indicate the presence of a habitation site which may well have been intensively occupied at various time periods. The temporal range indicated by the recovered materials extends from the Early Prehistoric through the Historic periods.

The site is clearly in danger from continued erosion, park maintenance and future construction, and especially from the ever increasing public usage of the area. The site does seem require intensive survey to determine its significance. No permit for further modifications of the site should be issued until its significance has been determined.



Figure 66. Site IC 79 Top: side notched projectile points
Bottom: end scrapers



Figure 67. Site IC 60 Top: projectile points
Bottom: end scraper and burin

21-IC-61

Description:

The site is located in a developed area on the east shore of Jay Gould Lake. The area is on the northeast side of a small point of land jutting into what was, before lake levels were raised, the Mississippi River channel. At present there is a narrow, 2 to 3.5 meter, beach at the waterline extending eastward to an erosional face 1.5 to 2 meters in height. The upland, east of the erosional bank, is currently characterized as residential.

Cultural materials were recovered on the northern side of the point in the shallows and in the one small test pit located in the uplands in the landowner's yard. Materials, described by the present landowner as being obtained during the excavation for the basement of the house, are also embedded in cement in the fireplace mantle of the house.

Cultural Affiliation: Multicomponent: Early and Late Prehistoric Periods; Lake Archaic and Blackduck cultures.

Collections: Donovan D. Wendt, Cohasset, St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-33-(1-12)

Cultural Material: The surface collection consists of materials found in the shallows at the northern edge of the site area.

The collection consists of:

9 flakes: 7 quartz
1 quartzite
1 chert

The fireplace mantle collection in the Wendt home contains points, of both stone and copper, scrapers, and a number of large ceramic rim-sherds. The diagnostic pieces seem to demonstrate Old Copper affiliation, while a number of the rims are classic Blackduck.

Testing:

The landowner did not approve of testing, but did allow one small (35 x 35 cm.) test excavation to be placed on the high ground near the house. The test was positive.

Test No. 1, was positive. Stratigraphy:

0 - 2 cm. - sod
2 - 12 cm. - dark brownish/black sandy humus
12 - 40 cm. - reddish brown sand, some pebbles and rock toward the lower portion of the profile
[3 quartz flakes and some fire-cracked rock were recovered from the 1- - 15 cm. level]

Discussion and Recommendations:

The temporal range of materials is significant, but the quantity of materials that remain in the area of the site may be scanty. Erosion and home construction and development seem to have destroyed at least parts of the site. Erosion will continue, but the home development in the site area seems to have been completed and there may well still be undisturbed site under the lawns and hedges located in the area.

Further subsurface testing should, if at all possible, be carried out in order to determine how much of the site is left and better define the cultural and temporal associations of the material that may still exist.

21-IC-62

Description:

The site is located in a developing area on the eastern shore of Jay Gould Lake. There is little or no beach in the area - the upland rises gradually from the shoreline toward the east to an elevation varying from 5 meters at the southern end of the site to almost 15 meters high at the northern end. Vegetation cover includes maple, basswood, and some white pine. There is moderate erosion, which has resulted in the formation of a small bank almost at the shoreline.

All cultural materials were recovered from the shallows. Nothing was found on the surface in the uplands or on the eroding bank areas.

Cultural Affiliations: Prehistoric Era; indeterminate culture.

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-34-(1-9)

Cultural Material: The 1978 collection, recovered entirely from the shallows, consisted of:

- 1 knife, jasper (broken)
- 8 flint: 5 quartz
- 1 quartzite
- 1 chert
- 1 moss agate

Testing:

It was impossible to identify or locate the landowner during the course of the survey, so no testing was undertaken.

Discussion and Recommendations:

As the only recovered cultural material was found within a 20 meter area underwater, it is probable that the site is either destroyed by erosion or else is totally submerged. No surface materials were found in the eroding banks or on the uplands, but subsurface testing would be required to definitely state that a site was either absent or present.

21-IC-63

Description:

The site is located on a small wooded hill on Jay Gould Lake about 0.5 kilometer east of its outlet in the Mississippi River. There is a narrow beach, at the western edge of the site, sloping upward to an erosional bank of about 1.5 to 2 meters in height, and continuing to the upland crest of the wooded hill. The vegetation cover is birch, mature oak, maple and white pine with rushes on the shore and swampy vegetation to the southeast of the site area proper. At the top of the hill are a number of circular holes, about 1 meter in diameter, of recent origin - the purpose of these is unknown, although they may be the result of pot-hunting activity.

Cultural material was recovered from the eroding areas of the bank, on the western side of the hill facing the lake, and from some of the subsurface tests described below.

Cultural Affiliation: Late Prehistoric Period; possibly Sandy Lake.

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No. 106-35-(1-63)

Cultural Material:

The surface collection, taken from the eroding banks at the western edge of the sight, includes the following:

- 1 scraper, quartz
- 27 flakes: 21 quartz
 - 1 quartzite
 - 1 oolitic chert
- 23 ceramic sherds:
 - 2 rims
 - 13 cord marked body sherds
 - 5 exfoliated body sherds
 - 3 undecorated body sherds

Testing: Six shovel tests were placed in and around the site area.

Test No. 1, was positive. Stratigraphy:

- 0 - 8 cm. - dark brownish/grey sandy humus
- 8 - 15 cm. - light brown sand with humic staining
- 15 - 40 cm. - light brown sand
- 40 - 50+ cm. - light tan coarse grained sand and rock till
- [fire-cracked rock found in the 10-15 cm. level]

Test No. 2, was negative. Stratigraphy:

- 0 - 6 cm. - dark brownish/grey, sandy humus
- 6 - 10 cm. - tan sand with humic staining
- 10 - 19 cm. - tan sand
- 19 - 41 cm. - light tan, homogeneous sand
- 41 - 50+ cm. - light tan, coarse grained sand and rock till

Test No. 3, was positive. Stratigraphy:

- 0 - 5 cm. - dark brownish/grey, sandy humus
- 5 - 12 cm. - tan sand with humic staining

12 - 50 cm. - homogeneous, tan sand
[14 flakes - 9 quartzite, 3 quartz, and 2 dolomite - 1 ceramic
body sherd, and fire-cracked rock were found in the 10 - 15 cm.
level]

Test No. 4; was positive. Stratigraphy:

0 - 9 cm. - dark brownish/grey, sandy humus
9 - 15 cm. - tan sand with humic staining
15 - 50 cm. - tan sand
[charred wood and fire-cracked rock found in the 10 - 15 cm. level]

Test No. 5, was negative. Stratigraphy:

0 - 8 cm. - dark brownish/grey, sandy humus
8 - 13 cm. - tan sand with humic staining
13 - 20 cm. - mottled tan sand
20 - 50+ cm. - homogeneous, light tan sand

Test No. 6, was negative. Stratigraphy:

0 - 10 cm. - dark brownish/grey, sandy humus
10 - 30 cm. - mottled tan sand
30 - 50 cm. - light tan sand

Discussion and Recommendations:

The materials recovered, although non-diagnostic, conform to the pattern of Late Prehistoric ceramic assemblages. The frequency of materials does not indicate an intensive occupation, but their variety does suggest that the site was a habitation in which people were involved in a number of different activities.

The location of materials within the site suggest that the area occupied, approximately 50 meters north/south by 35 meters east/west, is still relatively undisturbed. There is material eroding out of the banks, but it is not found on the beach or in the shallows. Although erosion is considered as light to moderate, and does not seem an immediate danger to the site, the possible pot-hunter's pits on the high areas of the site may well present a direct threat to the integrity of the site. Intensive survey of the site is recommended to determine its significance.



Figure 68. Top: Site IC 63 Blackduck ceramics
Bottom: Site IC 64 Blackduck and Ogechie ceramics

21-IC-64

Description:

The site covers a continuous area of some 500 meters of shoreline, on the south-eastern shore of the Mississippi River at its eastern point of juncture with Jay Gould Lake. The area is developed, in some areas, with private homes and landscaping while other portions of the area are still 'natural'. Vegetation cover, in the natural areas, consists of oak, aspen, basswood, various grasses, and poison ivy, while in the developed area lawn grass and mature oak, birch, maple and pine predominate. There are extensive stands of wild rice in the shallows bordering the site area. A low, erosional bank exists for the full 500 meters of site area, while the inland terrace rise to elevations of 2 to 7 meters above the water level presently extant.

Cultural material were found on the surface in the areas of eroding bank, as well as on the terrace above the bank. Sub-surface testing also proved positive, with cultural material being found in undisturbed, subsurface context. Locally, the site area is known as "Indian Point" and we were told that it was a favorite camping and ricing area of the historic Chippewa.

Cultural Affiliation:

Late Prehistoric and Early Historic Periods; (multicomponent, including Blackduck, Sandy Lake, and historic assemblages.

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-36-(1-452)

Cultural Material:

Surface collection of the eroding banks and upland areas of the site yielded the following materials:

- 32 flakes: 18 quartz
 - 1 heat treated chert
 - 2 chert
 - 4 quartzite
 - 1 jasperite
 - 4 argillite
 - 1 moss agate
 - 1 chalcedony
- 81 ceramic sherds: 4 rim sherds
 - 73 cord marked body sherds
 - 4 exfoliated body sherds
- 14 bone fragments
 - 6 fragments of, possibly, human bone

Testing:

Twelve shovel tests were excavated in the site area; eleven of these tests proved positive and produced undisturbed cultural material.

Test No. 1, was positive. Stratigraphy:

- 0 - 22 cm. - dark grey, sandy humus
- 22 - 28 cm. - grey sand with humic staining
- 28 - 60+ cm. - homogeneous light brown sand
- [7 flakes - 3 argillite, 2 quartz, and 2 quartzite - 2 sherds, cord-marked body sherds, charred wood, and fire-cracked rock were found in the 20 to 30 cm. levels]

Test No. 2, was positive. Stratigraphy:

- 0 - 16 cm. - dark grey, sandy humus
- 16 - 25 cm. - mottled humus/sand mixture
- 25 - 34 cm. - grey sand with humic staining
- 34 - 60+ cm. - homogeneous light brown sand
- [5 flakes - 2 quartzite, 1 quartz, 1 chert, and 1 chalcedony - 49 sherds, and 1 bone fragment were found in the 0-5 cm. level; 1 quartz point, 6 flakes - 4 quartz, 1 quartzite, and 1 chert - 32 sherds, and 1 bone fragment were found in the 25 - 30 cm. level]

Test No. 3, was positive. Stratigraphy:

- 0 - 12 cm. - dark grey, sandy humus
- 12 - 16 cm. - mottled humus/sand mixture
- 16 - 23 cm. - grey sand with humic staining
- 23 - 50+cm. - homogeneous light brown sand
- [9 flakes - 1 chert, 1 jasperite, 1 quartz, 4 quartzite, 1 agate, 1 argillite - 4 sherds, and some charred wood were found in the 15 - 20 cm. level]

Test No. 4, was positive. Stratigraphy:

- 0 - 6 cm. - sod
- 6 - 22 cm. - dark grey, sandy humus
- 22 - 30 cm. - grey sand with humic staining
- 30 - 50+ cm. - homogeneous light brown sand
- [1 quartzite flake, 5 sherds, and 1 bone fragment were found in the 20 - 25 cm. level]

Test No. 5, was positive. Stratigraphy:

- 0 - 5 cm. - sod
- 5 - 28 cm. - dark grey, sandy humus
- 28 - 44 cm. - grey sand with humic staining
- 44 - 70+ cm. - homogeneous light brown sand
- [3 flakes - 2 quartz and 1 argillite - 39 sherds, including 1 near rim, and 2 bone fragments were found in the 30 - 35 cm. level]

Test No. 6, was positive. Stratigraphy:

- 0 - 25 cm. - dark grey, sandy humus
- 25 - 38 cm. - grey sand with humic staining
- 38 - 65 cm. - homogeneous light brown sand
- [1 chert flake, 12 sherds, 3 bone fragments, and fragments of charred wood were found in the 30 - 35 cm. level]

Test No. 7, was positive. Stratigraphy:

- 0 - 13 cm. - dark grey, sandy humus
- 13 - 28 cm. - grey sand with humic staining
- 28 - 70+ cm. - homogeneous light brown sand
- [4 flakes - 2 jasperite, 1 quartz, and 1 chert - 1w sherds, and 1 round nail were found in the 20 - 25 cm. level]

Test No. 8, was positive. Stratigraphy:

- 0 - 18 cm. - dark grey, sandy humus
- 18 - 30 cm. - grey sand with humic staining
- 30 - 50+ cm. - homogeneous light brown sand
- [6 flakes - 3 quartz, 2 chert, and 1 agate - 60 sherds, 12 bone fragments, and fragments of charred wood were found in the 25 - 35 cm. levels]

Test No. 9, was negative. Stratigraphy:

- 0 - 13 cm. - dark grey sand
- 13 - 70+ cm. - homogeneous light brown sand

Test No. 10, was positive. Stratigraphy:

- 0 - 16 cm. - dark grey sand, some humic staining
- 16 - 70+ cm. - homogeneous light brown sand
- [6 sherds were found in the 10 - 15 cm. level]

Test No. 11, was positive. Stratigraphy:

- 0 - 8 cm. - recent "black-dirt" fill
- 8 - 21 cm. - dark grey sand, some humic staining
- 21 - 52 cm. - homogeneous light brown sand
- [1 chert point fragment, 3 flakes - 2 argillite and 1 chert - 2 bone fragments, and fire-cracked rock were found in the 15-20 cm. level]

Test No. 12, was positive. Stratigraphy:

- 0 - 9 cm. - dark greyish/black, sandy humus
- 9 - 25 cm. - grey sand with humic staining
- 25 - 70+ cm. - relatively homogeneous brown sand
- [5 flakes - 3 quartz, 1 argillite, and 1 chert - 1 sherd, and 1 bone fragment were found in the 20 - 25 cm. level]

Discussion and Recommendations:

The presence of relatively large quantities of cultural material in what is generally an as yet undisturbed context argues well for the importance of this multicomponent site. The spatial area of the site is large, some 500 meters in length by at least 50 meters in width, and the variety of materials recovered from it both indicates that the site is a habitation area. The diagnostic materials, primarily distinctive Blackduck and Sandy Lake ceramics, indicate multiple occupations of the area during the Late Prehistoric period. Local informants describe the area as being utilized in historic times by the Chippewa.

Erosion of the area is moderate and does not yet seem to have destroyed much of the site but it is continuing and will become increasingly destructive. The probability for future development in terms of cabin and home building is high, and this could be destructive of the undisturbed site area. The combination of erosion and development at this important site requires intensive survey to determine significance.

21-IC-65

Description:

This site, the largest in terms of spatial area located during the survey, covers approximately 1.5 kilometers of shoreline area on the south shore of the Mississippi channel at the junction of Cutoff and Jay Gould lakes. It also extends inland from the shore an average of more than 50 meters. Portions are cleared, for "lease lot" cabins, but the majority remains in basswood, aspen, birch, oak, maple, sumac, pine, leafy underbrush, ferns, mosses, and various grasses. A moderate to heavy stand of wild rice extends from the shoreline area to the river channel. There is little or no beach, but shallows extend toward the channel for considerable distances. A low erosional bank, ranging from 1 to 4 meters in height above water level, is present along the entire length of the shoreline and is subject to light to moderate erosion. A one lane dirt road extends the length of the site and parallels the shoreline. Land surface rises gently from the bank edge to, in some instances, an elevation of as much as 7 meters above the present water level.

Cultural materials were recovered on the surface from the areas of the eroding banks and from the road area where surfaces have been exposed and somewhat eroded by vehicular traffic. Subsurface testing demonstrated the presence of undisturbed cultural materials.

This publicly owned land is currently being offered to the public as lease lots for cabins and seasonal recreational use.

Cultural Affiliation:

Multicomponent; Late Prehistoric Period, Blackduck and Sandy Lake - local informants state that the area was also exploited by the historic Chippewa.

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-43-(1-2359)
106-44-(1-166)

Cultural Material:

The surface collection, from the eroding banks on the shoreline and from the exposed areas on the dirt road, yielded the following:

- 1 projectile point, argillite
- 5 scrapers: 2 chert
 - 1 quartzite
 - 1 chalcedony
 - 1 argillite
- 1 core, quartz
- 250 flakes: 137 quartz
 - 52 quartzite
 - 26 argillite
 - 10 chert
 - 8 jasperite
 - 8 agate
 - 5 moss agate
 - 2 heat treated chert
 - 2 slate
- 1 grinding stone/abrader, sandstone
- 109 ceramic sherds: 4 rims (2 Blackduck, 2 Sandy Lake)
 - 47 body sherds, cordmarked
 - 58 body sherds, worn/exfoliated

(con't) 22 bone fragments

Testing:

A total of 18 shovel test units were excavated in the site area. Eleven of these were in the eastern portion of the site, an area we originally categorized as a separate site and listed as PS-43. Seven tests were placed in the western part of the site, originally listed as PS-44.

The following 11 tests are in the eastern site area (PS-43).

Test No. 1, was positive. Due to the frequency of materials recovered, and their horizontal density, the test was expanded to a one by one meter square. Stratigraphy:

- 0 - 8 cm. - brownish black, sandy humus
- 8 - 16 cm. - brown sand with humic staining
- 16 - 28 cm. - brown sand
- 28 - 50+ cm. - homogeneous light brown sand
- [9 flakes - 8 quartz and 1 chert - 2,221 sherds (very small and fragmentary), 5 bone fragments, and charred wood were found in the 10 - 15 cm. level]

Test No. 2, was positive. Stratigraphy:

- 0 - 9 cm. - brownish black, sandy humus
- 9 - 15 cm. - brown sand with humic staining
- 15 - 30 cm. - brown sand
- 30 - 50 cm. - homogeneous light brown sand
- [5 quartz flakes and 48 bone fragments were found in the 10 - 15 cm. level]

Test No. 3, was positive. Stratigraphy:

- 0 - 8 cm. - brownish black, sandy humus
- 8 - 16 cm. brown sand with humic staining
- 29 - 50+ cm. - homogeneous light brown sand
- [1 agate flake, fire-cracked rock, and fragments of charred wood found in the 10 - 15 cm. level]

Test No. 4, was positive. Stratigraphy:

- 0 - 8 cm. - brownish black, sandy humus
- 8 - 28 cm. - brown sand with humic staining
- 28 - 33 cm. - brown sand
- 33 - 50+ cm. - homogeneous light brown sand
- [1 quartzite flake and fragments of charred wood found in the 10 - 15 cm. level; 1 chalcedony flake found in the 30 - 35 cm. level]

Test No. 5, was positive. Stratigraphy:

- 0 - 11 cm. - brownish black, sandy humus
- 11 - 18 cm. - brown sand with humic staining
- 18 - 31 cm. - brown sand, with some darker mottling
- 31 - 60+ cm. - homogeneous light brown sand
- [4 flakes - 1 moss agate, 1 agate, 1 chert, and 1 quartzite - with a heavy concentration of fire-cracked rock and charred wood fragments were found in the 10 - 15 cm. level]

(con't)

Test No. 6, was positive. Stratigraphy:

- 0 - 9 cm. - brownish black, sandy humus
- 9 - 18 cm. - brown sand with humic staining
- 18 - 30 cm. - brown silty sand
- 30 - 50+ cm. - light brown silty sand
- [5 flakes - 3 heat treated chert, 1 quartz and 1 agate were found with fire-cracked rock and some charred wood fragments in the 10 - 15 cm. level]

Test No. 7, was positive. Stratigraphy:

- 0 - 8 cm. - brownish black, sandy humus
- 8 - 18 cm. - brown sandy clay with humic staining
- 18 - 50+ cm. - reddish brown sand
- [3 flakes - 2 moss agate and 1 quartzite - found in the 10 - 15 cm. level]

Test No. 8, was negative. Stratigraphy:

- 0 - 7 cm. - coarse, brown sand
- 7 - 10 cm. - brownish black, sandy humus
- 10 - 17 cm. - tan sand, with some humic staining
- 17 - 50+ cm. - homogeneous light tan sand

Test No. 9, was positive. Stratigraphy:

- 0 - 8 cm. - brownish black, sandy humus
- 8 - 13 cm. - brown sand with humic staining
- 13 - 50+ cm. - fine, reddish brown sand
- [13 flakes - 9 chert, 1 moss agate, 1 quartzite, and 1 chalcedony - were found in the 5 - 10 cm. level]

Test No. 10, was negative. Stratigraphy:

- 0 - 7 cm. - brownish black, sandy humus
- 7 - 20 cm. - brown sand with humic staining
- 20 - 50 cm. - homogeneous light brown sand

Test No. 11, was positive. Stratigraphy:

- 0 - 8 cm. - brownish black, sandy humus
- 8 - 24 cm. - brown sand with humic staining
- 24 - 50+ cm. - homogeneous light brown sand
- [11 body sherds were found in the 10 - 15 cm. level]

The following 7 tests are from the western area of the site, or PS-44 in the field notes and records.

Test No. 1, was positive. Stratigraphy:

- 0 - 14 cm. - brownish black, sandy humus
- 14 - 20 cm. - brown sand with humic staining
- 20 - 50 cm. - relatively homogeneous light brown sand
- [54 flakes - 31 quartz, 12 chert, 8 argillite, 2 agate, and 1 jasperite - 16 bone fragments and some charred wood fragments were found in the 15 - 20 cm. level]

Test No. 2, was positive. Stratigraphy:

- 0 - 10 cm. - greyish black, sandy humus
- 10 - 20 cm. - greyish brown sand with humic staining
- 20 - 60 cm. - relatively homogeneous light brown sand
- [2 flakes - 1 quartz and 1 argillite - found in the 10 - 15 cm. level]

Test No. 3, was positive. Stratigraphy:

- 0 - 14 cm. - brownish black, sandy humus
- 14 - 24 cm. - brown sand with humic staining
- 24 - 60+ cm. - relatively homogeneous light brown sand
- [10 flakes - 6 quartzite, 2 quartz, 1 moss agate, and 1 argillite - 17 body sherds, 10 of which were cordmarked, 6 bone fragments and charred organic material were found in the 20-25 cm. level. A possible subsurface feature was noted from 22 to 45 cm. in depth on the south wall of the test unit- heavy dark discoloration]

Test No. 4, was negative. Stratigraphy:

- 0 - 12 cm. - brownish black, sandy humus
- 12 - 24 cm. - greyish brown sand with humic staining
- 24 - 50+ cm. - dark tan sandy clay

Test No. 5, was positive. Stratigraphy:

- 0 - 15 cm. - brownish black, sandy humus
- 15 - 20 cm. - brown sand with humic staining
- 20 - 50+ cm. - relatively homogeneous light brown sand
- [4 flakes - 2 chert, 1 quartz, and 1 quartzite - 16 bone fragments, 7 mammal (?) tooth fragments, and charred organic material were found in the 15 - 20 cm. level]

Test No. 6, was negative. Stratigraphy:

- 0 - 9 cm. - dark grey, sandy humus
- 9 - 20 cm. - greyish brown sand with humic staining
- 20 - 34 cm. - greyish brown sand
- 34 - 50+ cm. - homogeneous light tan sand

Test No. 7, was positive. Stratigraphy:

- 1 - 14 cm. brownish black, sandy humus
- 14 - 21 cm. brown sand with humic staining
- 21 - 50 + cm. homogeneous light brown sand
- [1 moss agate flake found in the 15 - 20 cm. level]

Discussion and Recommendations:

The wide areal extent of the site, in combination with the recovery of diagnostic materials from both surface and undisturbed subsurface contexts, indicates a habitation site which may have been utilized over a fairly long period of time during the late prehistoric period. The relatively large number of recovered items may reflect an intensive occupation of the site. The site location, close to extensive beds of wild rice, may indicate a seasonal occupation but one which continues and in which the group returns to the area for a particular activity - such as ricing.

Erosion of the banks on the shore, and growth of public usage of the area combine to pose a distinct danger to the integrity of the site. The sheer size of the site precluded, during normal survey operations, sufficient testing to properly evaluate its significance. What is definitely needed is intensive wide-scale subsurface testing of the entire area to determine its significance.



Figure 69. Crew testing site 21IC65.



Figure 70. Lithic artifacts, site 21IC65. left-broken side notched point; right-keeled end scraper.

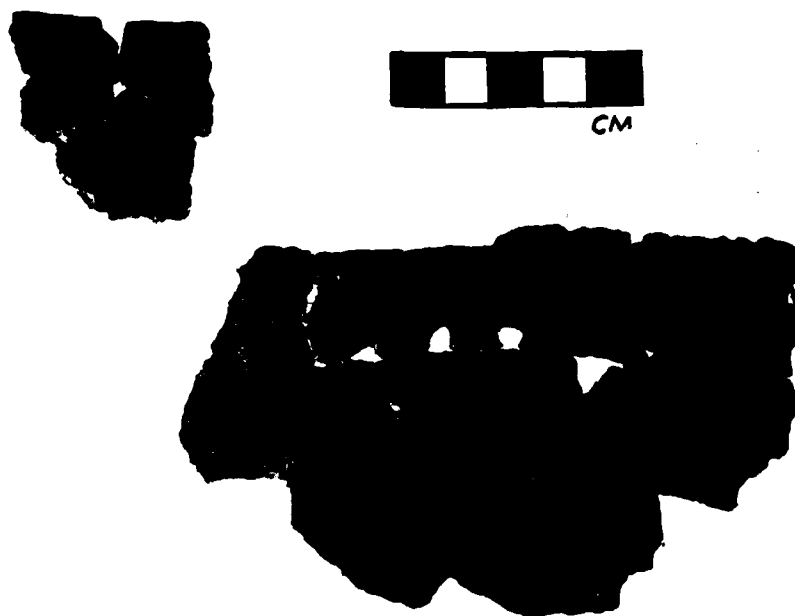


Figure 71. Ceramics 21IC65. Top row: Cord impressed rim sherd; Bottom row: Blackduck combed rim.



Figure 72. Site 21IC66 along the Mississippi River.

21-IC-66

Description:

The site is located in a developed area on the north shore of Jay Gould Lake at its point of juncture with the Mississippi River. Development has involved clearing, landscaping, and home and/or cabin construction. An abandoned resort (the Northern Holiday Resort) forms the primary developed area. Vegetation still extant in the area includes mature trees - primarily oak, basswood, and maple - small stands of basswood and aspen, with grasses, mosses, and leafy shrubs. Shoreline vegetation of rushes and cat-tails extends into wild rice beds which further extend lakeward to the river channel. There is some erosion of the low banks on the shoreline, but it seems slight and the dirt road which serves as access to the resort and parallels the shoreline has also been eroded by vehicular traffic.

Cultural materials were found in the areas of eroding banks and on the road surface, while further materials were recovered from undisturbed contexts by subsurface testing.

Cultural Affiliation: Late Prehistoric Period; Blackduck culture.

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-46-(1-176)

Cultural Material: The surface collection, from the eroding banks and road areas, consisted of the following:

- 1 knife, argillite or slate, broken
- 50 flakes: 27 quartz
 - 8 quartzite
 - 7 argillite
 - 6 chert
 - 1 heat treated chert
 - 1 agate
- 10 ceramic sherds; 2 rims (Blackduck)
 - 6 cord marked body sherds
 - 2 exfoliated body sherds
- 1 fragment of bird bone

Testing:

Nine shovel test units were excavated in the site area, and 8 of the tests proved positive in demonstrating the presence of undisturbed cultural material.

Test No. 1, was positive. Stratigraphy:

- 0 - 8 cm. - brownish black, snady humus
- 8 - 20 cm. - brown sand with humic staining
- 20 - 30 cm. - yellowish tan sand
- 30 - 50+ cm. - reddish yellow, mottled sands
- [4 flakes - 2 quartzite, 1 jasperite, and 1 chert - found in the 10 - 15 cm. level]

Test No. 2, was positive. Stratigraphy:

- 0 - 60+ cm. - homogeneous light brown sand
- [1 argillite flake found in the 0 - 5 cm. level]

Test No. 3, was positive. Stratigraphy:

- 0 - 28 cm. - brownish black, sandy humus

28 - 38 cm. - light brown sand with humic staining
 38 - 70+ cm. - yellowish tan sand
 [8 flakes - 3 quartz, 2 chert, 1 argillite, 1 agate, and 1 jasperite -
 7 sherds, 6 cordmarked and 1 exfoliated body, fire-cracked rock,
 and charred organic material were found in the 25 - 30 cm. level]

Test No. 4, was positive. Stratigraphy:

1 - 17 cm. - brownish black, sandy humus
 17 - 40 cm. - light brown sand with humic staining
 40 - 60+ cm. - yellowish tan sand grading into clay
 [6 flakes - 2 quartzite, 1 dolomite, 1 jasper, 1 moss agate, and 1
 chalcedony - 62 ceramic body sherds - 34 cord marked, 28 worn or
 exfoliated; 4 bone fragments, and charred organic material were
 found in the 20 - 25 cm. level]

Test No. 5, was positive. Stratigraphy:

0 - 12 cm. - brownish black, sandy humus
 12 - 20 cm. - brown sand with humic staining
 20 - 50+ cm. - yellowish tan sand grading into clay
 [10 ceramic body sherds, and 1 bone fragment were found in the
 15 - 20 cm. level]

Test No. 6, was positive. Stratigraphy:

0 - 12 cm. - brownish black, sandy humus
 12 - 32 cm. - brown sand with humic staining
 32 - 45 cm. - brown sand with lighter brown mottling
 45 - 60+ cm. - yellowish sand grading into clay
 [13 sherds - 1 rim (Blackduck?), 5 cordmarked body, 7 exfoliate
 body sherds - found in the 15 - 20 cm. level]

Test No. 7, was positive. Stratigraphy:

0 - 6 cm. - sod/black humus
 6 - 10 cm. - yellow sand
 10 - 14 cm. - brownish black, sandy humus
 14 - 28 cm. - brown sand with humic staining
 28 - 50+ cm. - yellowish sand grading into clay
 [1 argillite flake, and 5 exfoliated ceramic body sherds were found
 in the 15 - 20 cm. level]

Test No. 8, was negative. Stratigraphy:

0 - 8 cm. - brownish black, sandy humus
 8 - 20 cm. - brown sand with humic staining
 20 - 50+ cm. - yellowish tan sand

Test No. 9, was positive. Stratigraphy:

0 - 9 cm. - brownish black, sandy humus
 9 - 21 cm. - brown sand with humic staining
 21 - 50+ cm. - yellowish tan sand
 [1 corroded iron ring found in the 0 - 5 cm. level; 3 body sherds
 found in the 10 - 15 cm. level]

Discussion and Recommendations:

The range and frequency of recovered cultural material suggests a late prehistoric, probably Blackduck, occupation for the site area. The location and area of the site, on low ground near the water and wild rice beds, leads to the inference that

the site was seasonally occupied. Despite the obvious surface disturbance, brought about by residential and resort development, there is good evidence that a large portion of the site remains undisturbed.

Erosion, which is deemed to be slight in this area, is less dangerous to the site than is the possible industrial expansion of the Minnesota Power and Light complex. We were informed that the buildings comprising the resort were to be sold and moved, which could seriously damage the subsurface areas, but were not informed of any future plans for the area itself. Judging from the activity in other MPL areas nearby, it is recommended that this site be subjected to intensive testing and that no permits for modification of this area be issued until this is done.



Figure 73. Ceramics 21IC66. Top: Rim from Blackduck parching vessel.
Bottom: 21IC67 Sandy Lake cordmarked, notched rim interior and exterior.



Figure 74. Excavation at the Marshall Site (21IC86) in Jay Gould Lake.

21-IC-67

Description:

The site consists of a small island, approximately 90 meters long and 15 meters wide at its widest point, which is actively eroding. Located in the open water of Pokegama Lake, east of Tioga Mine #2, the island has an actively eroding bank completely surrounding it and ranging in elevation between 2 and three meters above the present lake level. Vegetation near the narrow beach and up the eroding banks is primarily aspen, willow, and poplar. The upper part of the island is dominated by cedar, red and white pine, and some paper larch. The island is utilized as a picnic area/camp site at the present time.

Cultural material was found on the beach and eroding out of the banks all around the island. Subsurface testing, in the higher parts of the island, produced evidence of undisturbed cultural materials in place.

Cultural Affiliation: Late Prehistoric Period; Sandy Lake

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-47-(1-580)

Cultural Material:

The surface collection, from the beaches and eroding banks, produced diagnostic Sandy Lake ceramics. Similar diagnostic Sandy Lake materials were recovered in the subsurface testing. The surface collection was composed of the following:

- 20 flakes: 15 quartz
 - 2 chert
 - 1 quartzite
 - 1 argillite
 - 1 shale
- 36 ceramic sherds: 2 rims (Sandy Lake)
 - 20 cordmarked body sherds
 - 14 exfoliated body sherds
- 76 bone fragments

Testing:

Three shovel tests were placed in the central, higher, portions of the island roughly along the long axis. All three produced cultural material in undisturbed contexts.

Test No. 1, was positive. Stratigraphy:

- 0 - 10 cm. - dark brown, sandy humus
- 10 - 26 cm. - brown sand with humic staining
- 26 - 48 cm. - light brown sand (dry)
- 48 - 93 cm. - light brown sand (wet)
- 93 - 120 cm. - mottled reddish/orange sands grading into glacial till
- [18 flakes - 17 quartz and 1 quartzite - 391 sherds, including 12 rim fragments of Sandy Lake material, and charred organic materials were found in the 5 - 20 cm. levels; 3 quartz flakes found in the 90 - 95 cm. level]

Test No. 2, was positive. Stratigraphy:

- 0 - 12 cm. - dark brown, loose sandy humus
- 12 - 28 cm. - light brown sand with humic staining
- 28 - 89 cm. - light brown sand
- 89 - 100+ cm. - mottled reddish/orange sand

[1 quartz flake, 21 bone fragments, fire-cracked rock and charred organic material were found in the 10 - 15 cm. level. Soils were highly compacted between 5 to 27 cm. below the surface.]

Test No. 3, was positive. Stratigraphy:

- 0 - 13 cm. - dark brown, sandy humus
 - 13 - 27 cm. - light brown sand, with some humic staining
 - 27 - 46 cm. - light brown sand, grading to gravel and cobble size rocks in lower portion of profile
- [1 quartz flake, and charred organic material were found in the 10 - 15 cm. level]

Discussion and Recommendations:

With the possible exception of the deeply buried flakes in Test No. 1 (preceramic?), what remains of this site must be considered as a late prehistoric Sandy Lake occupation. The entire island seems to contain cultural materials, but the major concentration is in the central island area - the area that is currently being used as a picnic/camp site. The potential destruction of the site by increased public usage is more than matched by the severe, ongoing erosion that is rapidly destroying the entire island. The only mitigative procedure possible, to save what is left of the site, is complete scientific excavation of the island. Intensive survey is required immediately to determine the site's significances.

21-IC-68

Description:

The site is located on a small, 80 meter by 10 meter, island backed by a large bay to the west, Chisolm Point to the north, and Pokegama Lake proper to the east and south. The island is low, rising not much higher than the 2 meter erosional bank surrounding it, and grass covered with some willow and aspen near the shoreline and basswood, oak, and birch thinly scattered over the interior. There is a large ditch near the northeastern corner of the island, and a large depression in the central area - both of these are thought to relate to a home which has, according to local informants, been removed within the last 15 years because of erosional problems. Erosion at present appears to be only slight.

A thin scatter of cultural material and organic debris was collected from the beach and shallows, where it was concentrated on the eastern edge of the island.

Cultural Affiliation: Prehistoric Era; indeterminate culture

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-48-(1-19)

Cultural Material:

The only materials recovered from the site were from the beach and shallows at the eastern edge of the island, and were surface finds. The collection consists of:

16 flakes: 13 quartz
 1 quartzite
 1 argillite
1 bone fragment
1 duck skull
1 fish scale

Testing:

The majority of the island being heavily eroded presented little in terms of subsurface testing, 1 formal shovel test was excavated.

Test No. 1, was negative. Stratigraphy:
0 - 6 cm. - brown sandy humus/root zone
6 - 25 cm. - brown sand, with heavy gravel concentration
25 - 40 cm. - brown gravels grading into cobble sized rock

Discussion and Recommendations:

The lack of undisturbed cultural material, and the non-diagnostic character of the material recovered suggest that the site may have been simply a specialized activity area which has long since been destroyed by either construction or erosion. The evidence indicates that a prehistoric activity did take place in the area, but further testing is not warranted.

21-IC-69

Description:

The site is located on a small island, locally known as Emerald Isle, in Little Jay Gould Lake. The entire island has been subjected to construction and landscaping and, at present, supports a house, five outbuildings, and a dock. Vegetation consists of lawn grass, with a few mature maple, oak and birch. An erosional bank, ranging from 3 to 5 meters above the water level, extends two-thirds of the way around the island - the northwestern area being without the bank and simply sloping gently into the water. The maximum elevation of the island above lake level does not exceed 7 meters.

Cultural materials were found eroding out of the banks and beside a well worn foot trail on the eastern side of the island. Test pits indicated the presence of some undisturbed cultural material as well.

Cultural Affiliation: Late Prehistoric Periods; Sandy Lake.

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-49-(1-47)

Cultural Material: The 1978 survey surface collection yielded the following materials:

- 1 core: quartz
- 6 flakes: 3 quartz
 - 1 moss agate
 - 1 chert
 - 1 argillite
- 27 ceramic sherds
 - 15 body sherds, cordmarked
 - 12 body sherds, exfoliated
- 2 bone fragments

Testing:

Five shovel test units were excavated on the island, three of which were productive of undisturbed cultural material.

Test No. 1, was positive. Stratigraphy:

- 0 - 7 cm. - brownish black, sandy humus
- 7 - 13 cm. - light tan silt with humic staining
- 13 - 16 cm. - light tan silt
- 16 - 50+ cm. - crumbly light brown clay
- [5 flakes - 3 quartz, 1 agate, and 1 quartzite - 1 body sherd, and fire-cracked rock were found in the 5 - 10 cm. level]

Test No. 2, was positive. Stratigraphy:

- 0 - 12 cm. - brownish black, sandy humus
- 12 - 20 cm. - light tan silt with humic staining
- 20 - 50+ cm. - very light tan silt
- [1 rim sherd, Sandy Lake (?), found in the 10 - 15 cm. level]

Test No. 3, was negative. Stratigraphy:

- 0 - 5 cm. - brownish black, sandy humus
- 5 - 10 cm. - light tan silt with humic staining
- 10 - 50+ cm. - light tan silt grading into crumbly light brown clay

Test No. 4, was negative. Stratigraphy:

- 0 - 10 cm. - brownish black, sandy humus
- 10 - 19 cm. - light tan silt with humic staining
- 19 - 50+ cm. - light tan silt

Test No. 5, was positive. Stratigraphy:

- 0 - 12 cm. - brownish black, sandy humus
- 12 - 20 cm. - tan silt with humic staining
- 20 - 50+cm. - light tan silt, grading into clay
- [1 quartzite flake found in the 10 - 15 cm. level]

Discussion and Recommendations:

The materials recovered from the site area, which seem to be concentrated in the southeastern one-third of the island, conform to a late prehistoric pattern and possess characteristics diagnostic of Sandy Lake assemblages. Despite the modern occupation of the island and the associated landscaping and surface modification, cultural materials are found in undisturbed subsurface context.

Future human use of the island, coupled with what may be defined as moderate erosion of the banks where cultural material seems to be concentrated, does pose a threat to the site. There should be intensive testing of the areas of artifact concentration to determine significance.

21-IC-70

Description:

The site is located in an area which is the site of an old resort on the northern shore of Jay Gould Lake. The beach extends inland in a crescent to a steep eroding bank. The banks, ranging between 3 to 4 meters high, are relatively clear of vegetation as is the upland area to the north. Four cabins and a few mature oaks are the primary surface features of the upland area. A well travelled dirt road leads to the area of the cabins.

Cultural materials were found in the eroding banks and were also recovered from subsurface testing in the upland areas.

Cultural Affiliation: Middle-Late Prehistoric periods; Historic Era; probably multicomponent.

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-51-(1-26)

Cultural Material:

The materials from the surface reconnaissance, found in the area of the bank erosion, consisted of:

- 4 quartz flakes
- 1 possible bone tool
- 1 historic clay pipestem fragment
- 4 bone fragments

Testing:

Three shovel test units were excavated in the area, two of which produced evidence of undisturbed cultural material.

Test No. 1, positive. Stratigraphy:

- 0 - 13 cm. - brownish black, sandy humus
- 13 - 21 cm. - brown sand with humic staining
- 21 - 65 cm. - relatively homogeneous brown sand
- [3 quartz flakes and 1 bone fragment were found at the 15 - 20 cm. level]

Test No. 2, was positive. Stratigraphy:

- 0 - 23 cm. - brownish black, sandy humus
- 23 - 40 cm. - brown sand with humic staining
- 40 - 55+ cm. - relatively homogeneous brown sand
- [3 body sherds were found in the 15 - 20 cm. level; 9 flakes - 8 quartz and 1 argillite - were found in the 40 - 45 cm. level]

Test No. 3, was negative. Stratigraphy:

- 0 - 12 cm. - brownish black, sandy humus
- 12 - 28 cm. - brown sand with humic staining
- 28 cm. - heavy tree roots stopped test

Discussion and Recommendation:

The possibility of more than one component is shown by the separation of materials vertically in Test #2 and the presence of historic clay pipestem in the surface collection. Moderate erosion, and the evidence of modern usage of the area combine to indicate that the site may be in danger of continued destruction. Intensive testing of the site is recommended to determine its significance.

Description:

The site area is marked by two large boulders on the shore at the western end of Sugar Bay. The beach area is wide, average some 15 meters, and slowly rises 2-3 meters to a bank showing evidence of moderate erosion. The site area itself lies on the terrace above the banks which slope upward from the marshy area at the south to an elevation of almost 5 meters above lake level in the north. Vegetation on the site is all secondary growth. There are several large depressions in the site area, ranging to as much as 3 meters in depth.

Cultural materials were found in the shallows and in the area of the eroding banks. A collection of historic materials collected from the site by William J. Marshall of Grand Rapids was donated to the Museum. Subsurface testing further indicated the presence of an historic component to the site.

Cultural Affiliation: Middle Historic Period; Logging Camp; Prehistoric Era, indeterminate culture.

Collections: William J. Marshall (donated to St. Cloud Museum)
St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-52-(1-45)

Cultural Material:

The surface collection yielded both prehistoric and historic materials, with a spatial separation between the two of some significance, as described below:

Found in the shallows:

- 1 knife, jasper
- 1 core, quartz
- 16 flakes: 10 quartz
 - 2 quartzite
 - 2 argillite
 - 1 heat treated chert
 - 1 chert

Found in bank erosion:

- 6 whiteware fragments
- 1 yellow-ware fragment with black glaze
- 1 translucent glass fragment
- 1 kaolinite pipestem fragment
- 2 pieces of coal

Donated by W.J. Marshall:

- 1 blacksmith tongs
- 1 metal axe blade
- 7 large iron spikes
- 1 stove plate
- 4 hitch parts (metal)
- 1 brass compass/transit case

Testing:

As the depressions fairly well define the site area, only one shovel test unit was excavated in order to do as little damage to the site as possible. The test was positive.

Test No. 1, was positive. Stratigraphy:

- 0 - 2 cm. - sod/root zone
- 2 - 26 cm. - brownish black, sandy humus
- 26 - 29 cm. - tan/brown sand with humic staining
- 29 - 31 cm. - very distinct ash layer
- 31 - 40 cm. - brown sand with humic staining and darker mottling
- 40 - 50+ cm. - homogeneous tan sand
- [a broken metallic spoon, missing the handle, was found in the
5 - 10 cm. level]

Discussion and Recommendations:

The site area shows definite evidence of both historic and prehistoric human activity. The prehistoric materials, none of which are diagnostic, are spatially restricted to the area of the shallows which may indicate that the prehistoric component is either submerged or else was destroyed during the historic utilization of the area. Evidence for the historic component is fairly substantial and typical of a logging camp. This component of the site seems, despite the moderate erosion presently observed, to be in relatively little immediate danger. Should lake level be raised by as much as a meter however, this site would be destroyed. Intensive testing to determine significance is recommended.

21-IC-76

Description:

This site is located in a developed, and developing area on the relatively narrow portion of land between Hale and Pokegama Lakes. The area considered here has been heavily landscaped; both grading and filling operations have been carried out in order to place the present land owner's mobile home on the lot area where cultural material was recovered. A secondary growth of birch, maple, and pine is present between a paved road and the landowner's trailer. The beach, averaging about 5 meters in width, is for the most part in cattails. An inland terrace ranging from 1 to 5 meters in elevation above the present lake level.

One ceramic sherd was found on the surface, some 15 meters from the shoreline. No materials were recovered from the shallows or from test excavation.

There is only slight erosion apparent on the bank of the inland terrace.

The land, and mobile home, are owned by Mr. Ralph Erickson of Grand Rapids.

Cultural Affiliation: Late Prehistoric Period, (Blackduck culture).

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-5-1

Cultural Material: One ceramic rim sherd was found on the surface of the inland terrace 15 meters from the present shoreline.

1 Blackduck ceramic rim sherd rim

Testing:

The land owner permitted one test to be placed in the lawn area where the sherd was located. The test, excavated to something more than 50 centimeters proved negative.

- 0 - 5 cm. - sod
- 5 - 14 cm. - mixture of humic stained and grey/brown snads - some charcoal streaking
- 14 - 28 cm. - reddish/brown sand
- 28 - 50+ cm. - light tan silty sands

Discussion and Recommendations:

The presence of a single sherd, even a diagnostic rim, in an area which has been highly disturbed by both grading and filling does not conclusively demonstrate the presence of a site. The limited testing permitted by the landowner further mitigates against a firm determination of the presence or absence of a site. As most of the fill brought in had, however, come from the same general site area, there may be undisturbed areas still extant exhibiting site materials. As the area does not seem threatened by erosion, a wider scaled subsurface survey might be able to identify the site from which the recovered rim sherd came.

Description:

The site, extending approximately 150 meters east to west and some 50 meters north to south at its widest point, is located on the shore of Cutoff Lake. A low beach, average some 4 meters in width, rises steeply towards the south to a bank with an erosional face approximately 3 meters high which parallels the lake shore and extends the full 150 meters of the site's length. Vegetation, on the upland south of the erosional bank, consists of basswood, aspen, oak, maple, birch, sumac, ferns, poison ivy, mosses and various grasses. A thick stand of wild rice exists in the shallows. Three possible mounds are located near the center of the site area and several depressions, which may be ricing pits, are present as well.

Cultural materials were recovered from a surface reconnaissance as well as from subsurface testing. The area is known to local collectors, and does have a dirt road access leading to it. There is a cabin on the site, but it is on blocks and has neither foundation nor basement.

Cultural Affiliation: Late Prehistoric Period; culture indeterminate.

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-41-(1-211)

Cultural Material:

Surface reconnaissance produced a number of items from the area of eroding banks along the shore. Other materials were recovered from subsurface testing. The surface collection includes:

- 1 chalcedony scraper
- 23 flakes: 14 quartz
 - 1 chalcedony
 - 4 jasperite
 - 2 quartzite
 - 1 jasper
 - 1 argillite
- 100 ceramic sherds: 1 rim
 - 49 body sherds, cord marked
 - 50 body sherds, worn and/or exfoliated

Testing:

A total of eight shovel test units were excavated in the site area, and all eight proved positive - undisturbed subsurface cultural material was found in each.

Test No. 1, was positive. Stratigraphy:

- 0 - 6 cm. - sod and root zone
- 6 - 16 cm. - brownish black, sandy humus
- 16 - 21 cm. - brown sand with humic staining
- 21 - 50+ cm. - homogeneous tan sand
- [9 flakes - 7 quartz, 1 jasperite, and 1 jasper - and 1 ceramic body sherd were found in the 5 - 15 cm. levels]

Test No. 2, was positive. Stratigraphy:

- 0 - 7 cm. - brownish black, sandy humus
- 7 - 16 cm. - brown sand with humic staining
- 16 - 23 cm. - light brown, mottled sand
- 23 - 50+ cm. - homogeneous tan sand

[4 flakes - 3 jasperite and 1 argillite - found in the 20 - 25 cm. level]

Test No. 3, was positive. Stratigraphy:

0 - 11 cm. - brownish black, sandy humus
 11 - 27 cm. - greyish brown sand with humic staining
 27 - 40 cm. - light tan sand
 40 - 50+ cm. - homogeneous, very fine, light tan sand
 [2 quartzite flakes and fire-cracked rock were found in the 15 - 20 cm. level]

Test No. 4, was positive. Stratigraphy:

0 - 16 cm. - brownish black, sandy humus
 16 - 22 cm. - light brown sand with humic staining
 22 - 50+ cm. - homogeneous tan sand
 [6 flakes - 4 quartz and 2 chert - and fire-cracked rock were found in the 5 - 15 cm. levels]

Test No. 5, was positive. Stratigraphy:

0 - 3 cm. - brownish black, sandy humus
 3 - 14 cm. - greyish brown sand with humic staining
 14 - 25 cm. - light tan sand
 25 - 47 cm. - compacted, dark brown to black sands, with heavy charcoal content (possible feature?)
 47 - 70 cm. - homogeneous light tan sand
 [3 flakes - 2 jasperite and 1 chalcedony - and fire-cracked rock were found in the 25 - 30 cm. level, at the surface of in the surface of the possible feature]

Test No. 6, was positive. Stratigraphy:

0 - 12 cm. - brownish black, sandy humus
 12 - 18 cm. - brown sand with humic staining
 18 - 23 cm. - brown sand
 23 - 50+cm. - relatively homogeneous tan sand
 [23 flakes - 15 jasperite, 4 argillite, 2 quartz, 1 moss agate, and 1 jasper - found at the 35 - 40 cm. level]

Test No. 7, was positive. Stratigraphy:

0 - 12 cm. - brownish black, sandy humus
 12 - 17 cm. - brown sand with humic staining
 17 - 23 cm. - brown sand
 23 - 50+ cm. - light brown, fine sand
 [charred wood and fire-cracked rock found in the 10 - 15 cm. level;
 1 quartzite flake found in the 25 - 30 cm. level]

Test No. 8, was positive. Stratigraphy:

0 - 8 cm. - brownish black, sandy humus
 8 - 14 cm. - brown sand with humic staining
 14 - 24 cm. - brown sand
 24 - 50+ cm. - relatively homogeneous tan sand
 [7 flakes - 3 quartzite, 2 quartz, and 2 chert - and 1 worn ceramic body sherd found in the 10 - 15 cm. level]

(con't)

Discussion and Recommendations:

This site may, on the basis of the deeply buried lithic materials found in tests 6 and 7, be a multicomponent site. The surface materials, and the majority of materials recovered from subsurface testing, fall into the Late Prehistoric Period, but the materials from the 30 - 30 cm. levels may be pre-ceramic in age and could date to the Early Prehistoric period. The site contains a number of surface features, mounds and depressions, and one subsurface feature may have been found. The evidence indicates that the site possesses considerable integrity or possibly national significance. Erosion is moderate, but is continual and is taking place on the long axis of the site. Development, through additional "lease lot" construction and associated use, and further exploitation by local collectors pose a threat to the site. Intensive survey to determine significance is necessary.

21-IC-78

Description:

This site is located in a low lying area on the southeastern side of Moose Point in Pokegama Lake. It has been partially developed with 2 cabins and a mobile home located in the area. A wide, from 15 to 20 meters, shallow beach rises westward to a grassy 1 to 1.5 meter high bank. The vegetation cover is lawn grass with maple, basswood, and birch.

Flakes were recovered in the surface collection from both the shallows, which extend from 20 to 30 meters into the lake, and the beach. Testing of inland areas proved positive.

Cultural Affiliation: Early Prehistoric Period; indeterminable culture.

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-23-(1-62)

Cultural Material: Twenty-six items were recovered in the shallows and on the beach, and included:

26 flakes: 20 quartz
3 quartzite
3 jasperite

Testing:

Three shovel tests were excavated to a depth of at least 50 centimeters and all proved positive, in that cultural material was recovered from undisturbed positions.

Test No. 1, was positive. Stratigraphy:

0 - 20 cm. - sod, black topsoil
20 - 42 cm. - tan sand with humic staining
42 - 50+ cm. - homogeneous tan sand
[6 fragments of modern glass were recovered in the upper 20 cm., indicating some fill being dumped in the area. 16 flakes were recovered from the 30 to 37 cm. levels: 12 quartz
1 agate
2 chert
1 quartzite
3 pieces of fire-cracked rock were also taken from the 30 - 37 cm. level]

Test No. 2, was positive. Stratigraphy:

0 - 1 cm. - sod
1 - 13 cm. - black humus, topsoil
13 - 32 cm. - tan, silty sand with humic staining
32 - 50+ cm. - homogeneous tan sand, silt in lower portions of the profile
[1 fire-cracked rock and 10 flakes recovered from the 25 - 30 cm. level; flakes: 2 quartz
4 quartzite
2 jasperite
1 chert
1 agate]

Test No. 3, was positive. Stratigraphy:

- 0 - 1 cm. - sod
- 1 - 14 cm. - black humus, topsoil
- 14 - 34 cm. - brownish tan sand (homogeneous)
- [2 quartz flakes were recovered in the 25 - 30 cm. level]

Discussion and Recommendations:

The site extends almost 120 meters in a roughly north/south direction, paralleling the lake shore. Evidence from the testing indicates that it also extends inland, westerly, as much as 40 meters while the collection from the beach and shallows areas indicates it may have extended some 20 to 30 meters into the lake. The undisturbed materials found in the testing further indicate that at least half of the site remains in relatively good, undisturbed condition. The lack of ceramics, from both surface and subsurface collections, argues for a preceramic time period.

Although the danger of erosion destroying what remains of the site is not as great as in many other areas, the current rate of development in the area poses an immediate and direct threat. The low elevation of the site could develop into a dangerous situation if lake levels were raised by even 1 meter. Intensive testing to determine significance is required.

21-IC-79

Description:

The site is located in the northern and central portions of Nesbitt Island. The beach, composed of fine sand with some pebbles, is between 3 and 5 meters wide and extends southward to an erosional bank varying from 1 to 3 meters in elevation. The uplands, south of the erosional face, continue rising to a height of 15 meters plus above present lake level. The vegetation is predominantly secondary forest growth with dense poison ivy cover in the non-forested areas. The island is undeveloped but, due to heavy usage by visitors, is threatened. The entire island has recently been purchased by the Greater Lake Pokegama Association of Grand Rapids with the idea of turning it over to Itasca County.

The site and island area are well known to local collectors, almost everyone interviewed had at least one "arrowhead" from the island. Cultural material was recovered in the shallows, on the beach, in eroding banks, and in subsurface tests.

Cultural Affiliation:

Multicomponent Lake Prehistoric, Blackduck and Sandy Lake; Early and Middle Historic Periods, and an historic component.

Collections: William J. Marshall, Grand Rapids, St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-24-(1-642)

Cultural Material:

The W.J. Marshall collection, donated to the St. Cloud Museum of Man, included:

- 36 lithic artifacts
- 81 flakes
- 297 ceramic sherds
- 47 bone fragments
- 16 items of historic Euroamerican manufacture

The surface collection recovered in the shallows, beach, and erosional banks included:

- 1 projectile point, chalcedony
- 1 scraper, quartz
- 49 flakes: 32 quartz
 - 6 quartzite
 - 9 chert
 - 2 jasperite
- 44 ceramic sherds: 1 rim
 - 39 body sherds
 - 4 exfoliated body sherds
- 12 bone fragments
- 5 historic items: 2 ceramic whiteware fragments
 - 1 glass bottle neck
 - 2 metal fragments

Testing:

Two shovel tests were excavated on the upward sloping area south of the beach and erosional banks where the cultural materials were recovered. The position and number of the tests was almost as much a function of tourist activity as it was of survey procedure. The island is criss-crossed with walking trails

which, during the summer, carry a heavy traffic of visitors. In order to arouse as little curiosity, and to avoid emulation on the part of tourists, only two tests were put in. Both of these were somewhat off the walking trail which leads almost through the center of the site area. Both tests were positive.

Test No. 1, was positive. Stratigraphy:

- 0 - 14 cm. - dark blackish/brown, sandy humus
- 14 - 21 cm. - mottled brown sandy humus
- 21 - 26 cm. - brown sand with humic staining
- 26 - 50+ cm. - homogeneous fine tan sand
- [modern/historic glass fragments found in 10 - 14 cm. level]

Test No. 2, was positive. Stratigraphy:

- 0 - 15 cm. - dark blackish/brown, sandy humus
- 15 - 20 cm. - grey sands with heavy ash content
- 20 - 28 cm. - brown sand with humic staining
- 28 - 50+ cm. - tan sand, with some gravels in lower portion
- [fire-cracked rock, and 2 cord-marked ceramic body sherds were found in the 15- 20 cm. level]

Discussion and Recommendations:

Although individual informants had indicated that cultural materials were found in all parts of Nesbitt Island, our reconnaissance found only one major concentration of cultural material on the north-central part of the island. Undoubtedly the entire island was utilized by the inhabitants of earlier occupations and scattered materials no doubt remain as evidence of these uses, but what must be a more intensively occupied area is that which we have located and described above.

The extent of recovered cultural materials argues for a large occupation area, much of which remains undisturbed. The range of materials, from Blackduck through historic, suggests a relatively long term occupation of the same general area, while the frequency of the materials suggests that the occupation may have been intensive at certain periods.

The moderate to severe erosion of banks and shoreline on Nesbitt Island, coupled with the increasing public usage of the area, will result in the destruction of the site. Intensive testing to determine significance is required.

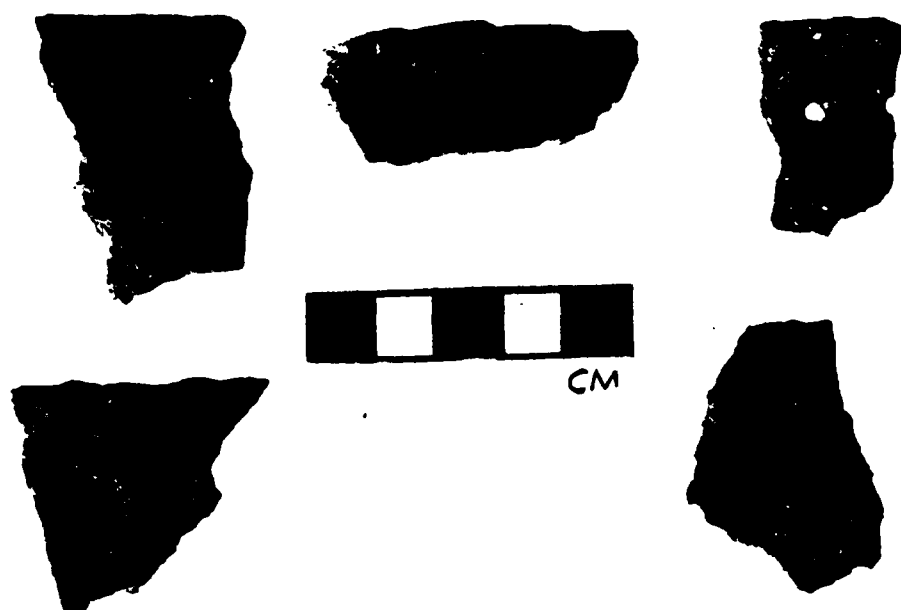


Figure 75. Site IC 79 ceramics. Top: left-St. Croix, center and right-Blackduck. Bottom: Sandy Lake.

21-IC-80

Description: The site is located in a low lying area at the southern end of the channel between Pokegama and Little Jay Gould Lakes. West of the site area is an area of swampy ground, while surrounding the site area is a mixed basswood and oak forest. The area shows evidence of some clearing and is now used as a "camp" site. The beach is narrow, with banks of between 1 to 1.5 meters leading upward to the relatively flat site area which is roughly 40 meters east/west and 60 meters north/south. A dirt track runs to and through the site area.

Cultural materials were found eroding from the banks and the road, or track, and were also found in place during subsurface testing.

Cultural Affiliation: Early Prehistoric Period

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-29-(1-118)

Cultural Materials: The surface collection, from the eroding banks and dirt road, included the following:

54 flakes: 41 quartz
 2 quartzite
 3 jasperite
 2 argillite
 1 slate (?)
 1 chert
 2 moss agate
 2 agate

11 bone fragments

1 fragment of cast iron, with a loop design on one surface

Testing: Five shovel tests were excavated in the site area.

Test No. 1, was negative. Stratigraphy:

0 - 8 cm. - dark grey, sandy humus
8 - 10 cm. - dark grey, sandy humus and charred wood
10 - 20 cm. - tan sand and clay, with pebbles and rock
20 - 25 cm. - rock

Test No. 2, with positive. Stratigraphy:

0 - 12 cm. - dark grey, sandy humus
12 - 25 cm. - tan sand with humic staining
25 - 50 cm. - homogeneous tan sand
[3 quartz flakes found in the 15 - 20 cm. level]

Test No. 3, was positive. Stratigraphy:

0 - 10 cm. - dark grey, sandy humus
10 - 17 cm. - tan sand with humic staining
17 - 50+ cm. - homogeneous tan sand
[3 quartz flakes found in the 15 - 17 cm. level.
4 flakes - 1 chert, 2 argillite, and 1 quartzite - and 3 bone fragments found in the 17 - 20 cm. level]

Test No. 4, was positive. Stratigraphy:

0 - 10 cm. - dark grey, sandy humus

10 - 27 cm. - tan sandy loam with humic staining
27 - 50 cm. - tan sandy loam
[12 flakes - 9 quartz, 1 quartzite, and 2 argillite -
9 bone fragments, and charred wood were found in the
27 - 28 cm. level]

Test No. 5, was positive. Stratigraphy:

0 - 39 cm. - dark grey, sandy humus
39 - 50 cm. - tan sand with humic staining
50 - 75 cm. - homogeneous tan sand
[2 quartz flakes and charred wood were found at the
10 cm. level; 6 flakes - 3 quartz, 2 quartzite, and
1 argillite - and 2 bone fragments were found at the
50 - 55 cm. level]

Discussion and Recommendations: The lack of diagnostic material from the site allows only the prehistoric interpretation but the lack of ceramics in the collection may indicate a preceramic occupation. The lack of cultural material in the shallows, and their presence in the eroding banks and in place in the inland site area, indicates that the majority of the site is disturbed.

The moderate erosion combined with the public use of the site area may well result in the destruction of the site unless mitigation is undertaken. The site requires intensive testing to determine significance.

21-IC-81

Description: The site area is located at the northeastern end of Poole Bay. Local informants had told us that there was an old mining camp in this general area, and our surface reconnaissance discovered evidence of this possibility. The area at present is open grassland and is relatively flat and lowlying. There are a number of depressions, large enough to cellars or sub-ground structures, and a large cement and rock foundation. The cluster of possible structures could well be that of a mining camp.

No cultural material was found except in the area of the shallows to the southwest of the site.

Cultural Affiliation: Middle Historic Period?

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-32-1

Cultural Material: One ceramic stoneware fragment was found in the shallows during the course of the survey.

Testing: The presence of still standing structural evidence was considered sufficient to identify the site. Testing, it was felt, might have been more destructive than useful in the area.

Discussion and Recommendations: The foundations of a building of cement and rock composition, and the presence of a stoneware ceramic fragment are evidence of an historic Euroamerican utilization of the site. Small scale testing was felt to be potentially destructive and could not furnish much more information than could be obtained by visual inspection. Intensive testing to expose complete floors contained within either the foundations or depressions would be in order to assess the significance of the site. The threat of site destruction by erosion is minimal, but there is a danger in simply leaving the site unprotected.

21-IC-82

Description: The site is located in a developed, residential area of Cohasset on the western bank of the Mississippi River. The area is low-lying, not more than 1.5 to 2 meters above river level, with a swampy area to the northeast and a heavily travelled dirt road to the west. There is slight erosion of a 1 to 1.5 meter bank at the river's edge. Vegetation cover consists of a few mature oak and basswood, and sodded lawn.

Cultural material was found eroding out of the river bank and subsurface testing produced bone which may or may not be associated.

Cultural Affiliation: Prehistoric Era; culture indeterminate.

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-39-(1-3)

Cultural Material: The surface collection consisted of two items found within a meter of each other eroding out of the river bank. They are:

- 1 quartz flake
- 1 quartz core

Testing: Two shovel tests were excavated in the area, one of which produced a fragment of mammal (?) bone.

Test No. 1, was positive. Stratigraphy:

- 0 - 7 cm. - Black, sandy humus
- 7 - 16 cm. - greyish/yellow mottled sands
- 16 - 50+ cm. - yellow sand
- [1 bone fragment found in 10 - 15 cm. level]

Test No. 2, was negative. Stratigraphy:

- 0 - 50+ cm. - yellow sand

Discussion and Recommendations: The paucity of materials recovered, the lack of normal soil profiles, the obvious construction and development in the area, and the slight - but continuing - erosion of the river banks indicates that only the edge of the site remains or that the site has already been destroyed through construction activity in the area.

21-IC-83

Description: This site, encompassing an area roughly 50 meters by 30 meters in extent, is located on the southeast portion of a small point of land jutting from the mainland into Blackwater Lake. The area is relatively low, rising only 2.5 to 3 meters above current lake level, and is subjected to moderate erosion as evidenced by the steep banks at the water's edge. Vegetation includes willow and basswood on the banks nearest the water, grading into poplar and aspen further away from the shore. The central portion of the point has been cleared of forest for the placement of power lines leading from the Minnesota Power and Light generating plant to the northwest.

Cultural materials were recovered from the eroding banks and were found in sub-surface testing as well.

Cultural Affiliation: Late Prehistoric Period; indeterminate culture.

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-40-(1-41)

Cultural Material: The only surface materials located were from the area of the eroding banks, and consisted of the following:

- 2 flakes: 1 quartz
 1 chert
- 10 ceramic sherds: 1 cord marked body sherd
 9 exfoliated body sherds
- 1 bone fragment

Testing: Six shovel tests were excavated in the area, three of which showed the presence of undisturbed cultural material.

Test No. 1, was negative. Stratigraphy:

- 0 - 7 cm. - brownish black, sandy humus
- 7 - 14 cm. - tan sand with humic staining
- 14 - 50+ cm. - homogeneous tan sand

Test No. 2, was positive. Stratigraphy:

- 0 - 12 cm. - brownish black, sandy humus
- 12 - 22 cm. - tan sand with humic staining
- 22 - 30 cm. - mottled tan sand
- 30 - 60+ cm. - homogeneous tan sand
- [7 flakes - 2 quartz, 1 agate, 1 chert, 1 quartzite,
1 argillite, 1 dolomite - 7 sherds, and fire-cracked
rock were found in the 10 - 15 cm. level]

Test No. 3, was positive. Stratigraphy:

- 0 - 11 cm. - brownish black, sandy humus
- 11 - 20 cm. - tan sand with humic staining
- 20 - 36 cm. - mottled dark tan sand
- 36 - 50+ cm. - light tan, silty sand
- [2 flakes - 1 quartz, 1 quartzite -, 3 body sherds, and 3 bone
fragments were found in the 20 - 25 cm. level]

Test No. 4, was negative. Stratigraphy:

- 0 - 10 cm. - brownish black, sandy humus
- 10 - 20 cm. - tan sand with humic staining
- 20 - 50+ cm. - light tan, silty sand

Test No. 5, was positive. Stratigraphy:

- 0 - 13 cm. - brownish black, sandy humus
- 13 - 24 cm. - tan sand with humic staining
- 24 - 50+cm. - light tan, silty sand
- [3 flakes - 2 argillite, 1 quartz - found in the 10 - 15 cm. level]

Test No. 6, was negative. Stratigraphy:

- 0 - 18 cm. - brownish black, sandy humus
- 18 - 26 cm. - tan sand with humic staining
- 26 - 50+ cm. - homogeneous tan sand

Discussion and Recommendations:

Although no diagnostic materials were recovered, the ceramics indicate that the site belongs to the Late Prehistoric period. Testing showed the site to extend almost 50 meters in length, parallel to the shoreline, with undisturbed cultural materials being found up to 30 meters inland. The site is subject to moderate erosion on the lakeshore, but is still considered to be relatively undisturbed.

Continuing erosion, and the probability of more power lines being placed through the area as the MPL plant expansion continues, require intensive testing to determine significance.

21-IC-84

Description:

The site area is located on the south shore of Cutoff Lake. The beach is narrow, less than 2 meters, with an erosional bank paralleling the shoreline. The land surface rises from the bank but drops again toward the northwest. A dirt road roughly parallels the shoreline and passes through the site proper. Vegetation consists of basswood, aspen, oak, maple, birch and some pine. There is wild rice in the shallows extending northward to the river channel.

Cultural materials were recovered on the surface from both the erosional bank area and from the dirt road. Subsurface testing produced evidence of undisturbed cultural materials.

Cultural Affiliation: Late Prehistoric Period; culture indeterminate.

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-42-(1-22)

Cultural Material:

The surface reconnaissance discovered a thin scatter of cultural material eroding from the bank area and from the dirt road, these consisted of:

- 3 flakes: 2 quartz
 1 chert
- . 1 ceramic body sherd, cord marked

Testing:

Six shovel test units were excavated in and around the site area, three of which produced evidence of undisturbed cultural material at a depth average some 20 centimeters below the present ground surface.

Test No. 1, was positive. Stratigraphy:

- 0 - 12 cm. - brownish black, sandy humus
- 12 - 24 cm. - grey sand with humic staining
- 24 - 50+ cm. - relatively homogeneous yellow sand
- [1 quartzite flake, 7 body sherds, fire-cracked rock and fragments of charred wood found in the 10 - 15 cm. level]

Test No. 2, was negative. Stratigraphy:

- 0 - 2 cm. - brownish black, sandy humus
- 9 - 18 cm. - greyish brown sand with humic staining
- 18 - 50+ cm. - relatively homogeneous yellow sand

Test No. 3, was positive. Stratigraphy:

- 0 - 18 cm. - brownish black, sandy humus
- 18 - 24 cm. - greyish brown sand with humic staining
- 24 - 50+ cm. relatively homogeneous yellow sand
- [1 quartzite flake, 3 body sherds, and fragments of charred wood were found in the 15 - 20 cm. level]

Test No. 4, was positive. Stratigraphy:

- 0 - 12 cm. - brownish black, sandy humus
- 12 - 26 cm. - brown sand with humic staining
- 26 - 50+ cm. - relatively homogeneous yellow sand
- [1 quartz flake, fire-cracked rock, and fragments of charred wood found in the 20 - 25 cm. level]

Test No. 5, was negative. Stratigraphy:

- 0 - 4 cm. - brownish black, sandy humus
- 4 - 10 cm. - brown sand with humic staining
- 10 - 22 cm. - brown sand
- 22 - 50+ cm. - relatively homogeneous yellow sand

Test No. 6, was negative. Stratigraphy:

- 0 - 8 cm. - brownish black, sandy humus
- 8 - 12 cm. - brown sand with humic staining
- 12 - 16 cm. - brown sand
- 16 - 50+ cm. - relatively homogeneous yellow sand

Discussion and Recommendations:

Testing was able to allow the determination of an undisturbed site area measuring approximately 50 meters on the long axis, parallel to the shoreline, by 30 meters on the short axis. The type of materials recovered would indicate a Late Pre-historic date for the site, although no diagnostic materials were found by which a particular cultural affiliation can be made. The low density of materials suggests a short-term occupation of the site area.

Slight erosion is slowly destroying the site. The potential damage to the site is more through increasing public use than through erosion. If lake levels are raised much beyond the present level, erosion will increase and become a real danger. Given the present conditions, intensive testing is required to define and evaluate the site.

Test No. 5, was negative. Stratigraphy:

- 0 - 4 cm. - brownish black, sandy humus
- 4 - 10 cm. - brown sand with humic staining
- 10 - 22 cm. - brown sand
- 22 - 50+ cm. - relatively homogeneous yellow sand

Test No. 6, was negative. Stratigraphy:

- 0 - 8 cm. - brownish black, sandy humus
- 8 - 12 cm. - brown sand with humic staining
- 12 - 16 cm. - brown sand
- 16 - 50+ cm. - relatively homogeneous yellow sand

Discussion and Recommendations:

Testing was able to allow the determination of an undisturbed site area measuring approximately 50 meters on the long axis, parallel to the shoreline, by 30 meters on the short axis. The type of materials recovered would indicate a Late Pre-historic date for the site, although no diagnostic materials were found by which a particular cultural affiliation can be made. The low density of materials suggests a short-term occupation of the site area.

Slight erosion is slowly destroying the site. The potential damage to the site is more through increasing public use than through erosion. If lake levels are raised much beyond the present level, erosion will increase and become a real danger. Given the present conditions, intensive testing is required to define and evaluate the site.

21-IC-85

Description:

The site is located in a relatively undeveloped area at the extreme eastern edge of Turtle Bay in Little Jay Gould Lake. The area, approximately 30 meters wide, forms a small, shallow point of land extending southward into the lake toward a peninsula with which it may once have been connected. There is a wide, 10 to 15 meter, low beach which rises to a low erosional bank no more than 1.5 meters in elevation to the north. Vegetation on the low bank and beach area consists of willow and aspen, but mixed hardwoods are characteristic of the higher ground north of the point.

Cultural materials were recovered on the beach and in the shallows. Subsurface testing was negative, but the thickness of the forest vegetation precluded the taking of an adequate sample.

Cultural Affiliation: Middle or Late Prehistoric Period; culture indeterminable.

Collections: St. Cloud Museum of Man, 1978.

SCMM Accession No.: 106-50-(1-3)

Cultural Material:

All the recovered material was found either on the surface of the beach or in the shallows. The collection consists of:

- 2 flakes: 1 quartzite
 1 argillite
- 1 cordmarked body sherd

Testing:

Two shovel test units were excavated in the area, and both were negative.

Test No. 1, was negative. Stratigraphy:

- 0 - 12 cm. - brownish black, sandy humus
- 12 - 40 cm. - brown sand with humic staining
- 40 - 60+cm. - homogeneous silty brown sand

Test No. 2, was negative. Stratigraphy:

- 0 - 14 cm. - brownish black, sandy humus
- 14 - 35 cm. - light tan sand with humic staining
- 35 - 60+ cm. - homogeneous light tan silty sand

Discussion and Recommendations:

The site is probably late prehistoric on the basis of the single ceramic sherd; no diagnostic materials were recovered. The lack of materials found in the subsurface testing may reflect a sampling problem, or, as may be indicated by the presence of cultural material in the shallows, it is probable that the site has either been destroyed or else is submerged. Only an intensive subsurface examination of the site area can determine this.

21-IC-86

Description:

The site consists of a small, 1.5 hectare, low-lying island in the southern part of Jay Gould Lake. The island, known locally as Loon Island, is covered in heavy, secondary vegetation. The southern and eastern portions of the island support dense stands of marsh vegetation. The northern and western areas of the island have shallows which extend lakeward from the present shoreline as much as 150 meters and give some indication of the island's original size. The island is subject to continual severe erosion through wave action in the summers and ice rafting in the winters, and is well known as a source of artifacts to local collectors.

Cultural materials are found in quantity in the shallows, on the eroding low banks, and in undisturbed subsurface excavation. The site was, during the summer of 1978, the locus of the St. Cloud State University Archaeological Field School.

The island is owned by Itasca County, and was being excavated under an archaeological permit granted by the county and under license by the Minnesota State Historic Preservation Officer and the Minnesota State Archaeologist.

Cultural Affiliation: Multicomponent Early Prehistoric through Late Historic Periods

Collections: St. Cloud Museum of Man. St. Cloud State University.

SCMM Accession No.: 104 (1 - n)
105 (1 - n)

Cultural Material:

More than 10,000 items were recovered from the Marshall Site during the summer of 1978. These have not yet been completely catalogued or analyzed and so are not available for inclusion in this report at the present time. Under the conditions of the license, the results of the excavation and examination of the Marshall Site will be on file in the offices of the Minnesota State Historic Preservation Officer and the State Archaeologist.

Testing:

Shovel testing was not carried out, as wide scale test excavation was being conducted on the site. Evidence from this indicates the presence of a stratified, albeit complexly so, multicomponent site. The lower levels of cultural material are, unfortunately, below the water table.

Discussion and Recommendations:

Based on the preliminary study and in-progress analysis of materials from the Marshall site, there is definite evidence of undisturbed Sandy Lake and Blackduck occupation of the island. Materials from the shallows, below the present water table, indicate the probability of a late Archaic "Old Cooper" component on the island in the early prehistoric period. Surface indications, and information from the local sources, indicate the historic Chippewa utilized the island both for hunting and as a clay source for the production of ceramics.

Unfortunately, the site is undergoing severe, active erosion and is further suffering from the continuing deprivations of unscrupulous 'relic' hunters. What is left of the site should be subjected to complete, careful, scientific excavation.

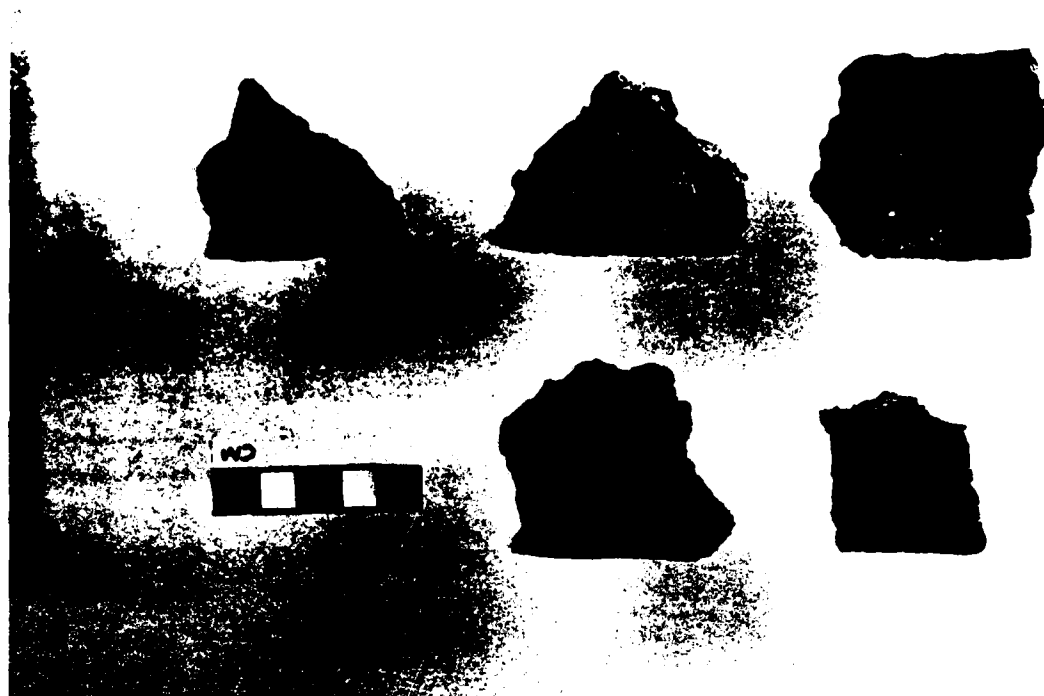


Figure 76. 21IC86 Ceramics. Top row: Left-Laurel dentate rim. Right-unidentified rim sherds with single twisted cord decoration. Bottom row: Left-Blackduck cord marked rimsherd. Centre-Blackduck combed rim. Right-Sandy Lake corded rim sherd.



Figure 77. 21IC86 Lithic artifacts. Top row: side notched and triangular projectile points. Bottom: left-end scraper. Right-side scraper.

Pokegama Dam/Corps of Engineers Owned Land

The intensive survey of the Corps of Engineers owned land, some 10 acres, in the area of the Pokegama Reservoir was carried out according to the scope of work and the results were completely negative.

The upland surfaces were examined and cored. The evidence obtained shows the surface soils are fill placed over the shallow bedrock quartzites. The banks of the river were carefully inspected and consisted primarily of fill material. They showed no evidence of possessing cultural materials any earlier than the construction of the Corps facilities.

All the evidence indicates that rather than destroying any land area, the Corps have in effect constructed their 10 acres of land over what was aboriginally the quartzite exposure forming the Pokegama Falls. The prehistoric people of the area did, as our survey indicates, utilize the Pokegama quartzite as a material for manufacturing tools and there is a possibility that some of this material may have been quarried from this particular area. If that is the case, the hypothetical quarry site must either be considered as destroyed by the construction or buried by the overburden.

Summary and Recommendations

The combined literature search and shoreline survey of the four Upper Mississippi River Headwaters Reservoirs surveyed under this contract identified 155 sites. Of these sites, 79 are located on Leech Lake; 37 on the Pokegama Reservoir lakes; 18 on Gull and Upper Gull Lakes of the Gull Lake Reservoir; and 21 on Whitefish, Upper Whitefish, and Cross Lakes of the Pine River Reservoir. The sites range in age from the Middle and Late phases of the Early Prehistoric period to the Late Historic period.

The data on these sites are included in the specific site descriptions on the preceding pages, and rather than attempt to summarize those data in text form, they have been summarized in table form for each reservoir in the succeeding section.

In those tables, the numbered sites are identified first by their temporal placement. The abbreviations used in each table follow the cultural/temporal periods used in the earlier section analyzing cultural developments in the region and are EP for Early Prehistoric; MP for Middle Prehistoric; LP for Late Prehistoric; EH for Early Historic; MH for Middle Historic; and LH for Late Historic. Where the evidence found in the survey was not specific, some sites could be identified as P Era and H Era respectively.

The next column in each table is an assessment of the impact of water erosion on the sites. The symbols used in this analysis are N for no apparent erosion; L for low erosion; M for moderate erosion; and S for severe erosion. Where a site has been completely eroded or submerged, this is indicated. It will be seen that erosion is minimal in the Gull Lake Reservoir, but moderate to severe in the remaining three.

The final column in each table is a recommendation for further intensive survey. This recommendation is based on an evaluation of the site's potential for nomination to the National Register of Historic Places. The recommendation also reflects the need for mitigation to protect the site from erosion. Those sites which have both a symbol for moderate or severe erosion and a recommendation for intensive survey are those which demand mitigation in the form of shoreline protection to prevent further erosion or demand mitigation in the form of excavation if site protection is not possible. Because no authorization for mitigation can take place until the site's National Register status is determined, the recommendation for intensive survey is obviously of primary importance. The tables with these assessments of each site for each reservoir follow.

Table 4
Gull Lake Reservoir Site Summary
and Recommendations

Site #	Temporal Placement	Erosional Status	Intensive Survey Needed?
CA6	M-LP	N	No
CA37	MP	N	No
CA40	LP/H Era	N	Yes
CA42	P Era	N	Yes
CA43	LP	N	Yes
CA58	LP	N	No
CA109	M-LP	N	Yes
CA110	M-LP	L	Yes
CA111	LP	S	Yes
CA112	M-LP	N	Yes
CA113	M-LP	N	Yes
CA114	LP	N	Yes
CA115	P Era	N	Yes
CA116	M-LP	S	Yes
CA117	MP	N	Yes
CA118	M-LP	M	Yes
CA119	M-LP	N	Yes
CA120	M-LP	N	Yes

Table 5
 Leech Lake Reservoir Site Summary
 and Recommendations

Site #	Temporal Placement	Erosional Status	Intensive Survey Needed?
CA7	P-H Eras	S	Yes
CA10	LP	S	Yes
CA11	LP/H ERA	M	Yes
CA12	LP/H Era	S	Yes
CA14	LP	S	Yes
CA15	LP	S	Yes
CA16	LP	(underwater)	No
CA10	LP	N	Yes
CA23	M-LP	N	Yes
CA24	LP	(underwater)	No
CA25	LP	M	Yes
CA28	M-LP	S	Yes
CA29	M-LP	M	Yes
CA30	P-H Eras	N	Yes
CA34	LP/MH	L	Yes
CA35	M-LP	N	Yes
CA36	M-LP	S	Yes
CA43	MP	L	Yes
CA45	M-LP	N	Yes
CA47	M-LP	N	Yes
CA53	LP	S	Yes
CA62	LP	M	Yes
CA63	MH	M	Yes
CA66	LP	M	Yes
CA67	MP	N	Yes
CA68	MP	N	Yes
CA69	M-LP	N	Yes
CA70	MP	N	Yes
CA71	MP	M	Yes
CA72	M-LP	N	No

Site #	Temporal Placement	Erosional Status	Intensive Survey Needed?
CA73	M-LP	N	Yes
CA74	LP	M	Yes
CA75	M-LP	M	Yes
CA76	M-LP	N	No
CA77	LP	N	No
CA78	LP	M	Yes
CA79	MP	S	Yes
CA80	LP	N	No
CA81	M-LP	S	Yes
CA82	MP	N	Yes
CA83	M-LP	M	Yes
CA84	LP	L	Yes
CA85	LP	N	Yes
CA86	MP	M	Yes
CA87	LP	M	Yes
CA88	M-LP	S	Yes
CA89	M-LP/MH	N	Yes
CA90	LP/MH	N	Yes
CA91	M-LP/H Era	M	Yes
CA92	M-LP	N	Yes
CA93	LP	S	Yes
CA94	LP	N	Yes
CA95	M-LP	N	Yes
CA96	LP	N	Yes
CA97	M-LP	M	Yes
CA98	M-LP	N	Yes
CA99	LP	S	Yes
CA100	MP	S	Yes
CA101	M-LP	N	Yes
CA102	P Era?	N	Yes
CA103	LP	N	Yes
CA104	LP?	N	No
CA105	LP	N	Yes
CA106	M-LP	L	Yes
CA107	M-LP	M	Yes

Site #	Temporal Placement	Erosional Status	Intensive Survey Needed?
CA108	LP/LH	L	Yes
CA121	M-LP	S	Yes
CA122	LP/E-MH?	N	Yes
CA123	M-LP	N	Yes
CA124	M-LP	N	No
CA125	LP/E-MH?	N	Yes
CA126	LP/E-MH?	N	Yes
CA127	H Era	N	Yes
CA128	H Era	N	Yes
CA129	LP/E-MH?	N	Yes
CA130	LP/E-MH?	N	Yes
CA131	M-LP	M	Yes
CA132	?	N	No
CA133	LH	L	Yes
Corps owned land	none	N	No

Table 6
Pine River Reservoir Site Summary
and Recommendations

Site #	Temporal Placement	Erosional Status	Intensive Survey
CW3	MP	N	No
CW9	E-MP	N	No
CW13	EP	M	Yes
CW18	M-LP	S	Yes
CW19	M-LP	S	Yes
CW20	MP	M	Yes
CW21	P Era	S	No
CW23	MH	L	Yes
CW24	M-LP	N	Yes
CW25	M-LP	M	Yes
CW26	P ERa/HEra	(Underwater)	No
CW29	EH	L	Yes
CW30	M-LP	(Underwater)	No
CW31	P Era	N	Yes
CW32	P Era	S	No
CW33	P Era	N	Yes
CW34	EP/LH	N	Yes
CW35	P ERa	S	Yes
CW36	P Era	L	Yes
CW37	P Era	S	Yes
CW38	P Era	N	No
PR11	P Era	N	No
PR16	P ERa/H Era?	N	No
Corps owned parcels	See CW23		

Table 7
 Pokegama Reservoir Site Summary
 and Recommendations

Site #	Temporal Placement	Erosional Status	Intensive Survey needed?
IC5	P/H ERas	M	Yes
IC38	LP/LH	M	Yes
IC48	M-LP	L	Yes
IC49	LP	L	No
IC50	P Era	L	No
IC51	P Era/MH	L	NO
IC52	P Era	L	NO
IC53	LP	S	Yes
IC54	M-LP/Mh	S	Yes
IC55	P Era	S	No
IC56	E-LP	S	Yes
IC57	P ERa	M	No
IC58	LP	M	Yes
IC59	P Era/LH	S	Yes
IC60	P-H ERas	M	Yes
IC61	E-LP	M	Yes
IC62	PEra	M	No
IC63	LP	M	Yes
IC64	LP/EH	M	Yes
IC65	LP	S	Yes
IC66	LP	L	Yes
IC67	LP	S	Yes
IC68	PEra	L	No
IC69	LP	M	Yes
IC70	M-LP	M	Yes
IC71	P Era/MH	M	Yes
IC76	LP	N	No
IC77	LP	M	Yes
IC78	EP	L	Yes
IC79	LP/E-MH	S	Yes

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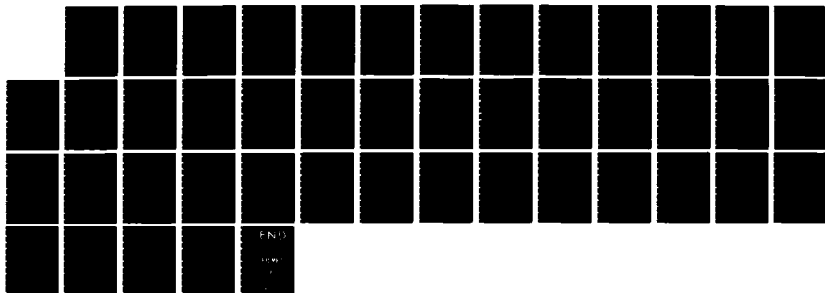
CULTURAL RESOURCES INVESTIGATION OF THE RESERVOIR
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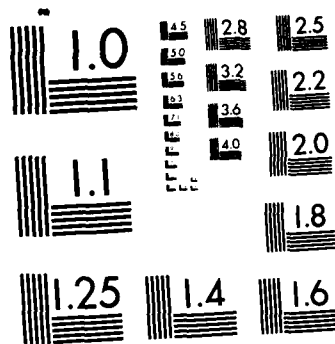
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

Site #	Temporal Placement	Erosional Status	Intensive Survey needed?
IC80	EP	M	Yes
IC81	MH	N	Yes
IC82	P ERa	L	No
IC83	LP	M	Yes
IC84	LP	L	Yes
IC85	M-LP	M	No
IC86	E-M-LP	S	Yes
Pokegama	None	N	No
Damsite			

The tabulations show a preponderance of prehistoric sites on each reservoir with Late Prehistoric period sites dominant in a numerical sense. This broad numerical count reflects the hypothesis that there was a significant population increase in the Late Prehistoric Period, but that suggestion that the increase was associated with intensive use of wild rice as a staple food cannot be substantiated on the basis of the minimal reconnaissance survey data.

An even greater numerical margin occurs when comparing the Middle and Early Prehistoric period sites. Some 60 Middle Prehistoric sites indicate an increase of 7.5 times over the 8 Early Prehistoric sites in the region. This ratio is comparable to that determined earlier in the Lake Winnibigoshish and Big Sandy Lake surveys and does seem to reflect a major population increase. The previously noted qualification that earlier sites may be in upland areas should be remembered and it is also quite possible that the earlier sites may have been on original shorelines now submerged by the raised water levels.

The region is extremely significant for Early and Middle Historic period sites with some 24 such sites documented in this survey. Very little actual research has been done on European fur trade sites, on the movement into the area of the historic Chippewa groups, on the major cultural shifts at the beginning of the reservation period, or even on the intensive logging period. Sites in this Headwaters region offer considerable potential for historic archaeological research and public interpretation. The dominant economic base in the area today is that of resorts and tourism and some of the very beginning such establishments are located on the shores of each reservoir. A concentrated effort to determine National Register eligibility for one or more of those structures on each reservoir should have a high priority.

In conclusion, there are a series of specific recommendations that are best presented in summary form and in a numerical sequence:

1. Survey time was insufficient for survey of the shorelines of Margaret, Spider, Bass, Roy, and Nisswa lakes in the Gull Lake Reservoir. Reconnaissance survey of these lakes should have a high priority.
2. Survey time was insufficient for survey of the shorelines of Dagget, Little Pine, Rush, Island, Pig, Arrowhead, Clamshell, and Lower Hay lakes should have a high priority. It should be noted that informants suggest that many of the major prehistoric sites in the region occur on these smaller, ancillary lakes.
3. The Langer and Gull Lake Dam sites on Corps owned lands at the Gull Lake Reservoir outlet need continued protection. No further development at either site should take place without a detailed review of plans and subsequent pre-development mitigation.
4. The Cross Lake lands owned by the Corps near the dam site are a segment of a major Middle Historic lumbering operation. Although ownership of the site is divided and the site partially destroyed, the areas within the jurisdiction of the Corps are potentially very significant. A high priority for intensive survey is required and no alienation or development of the land should take place until that is accomplished. The work should be done by a qualified historic site archaeologist in cooperation with an underwater archaeologist.

5. Sites in each reservoir identified as suffering severe erosion in the preceding tables should have first priority for intensive survey to determine National Register eligibility and subsequent mitigation.
6. Sites in those reservoirs identified as suffering moderate erosion should have second priority for intensive survey.
7. Sites identified as suffering low erosion or no erosion should have third priority for intensive survey.
8. Public interpretation at the Gull Lake Dam site should be expanded to include interpretation of the prehistoric era in both the Gull Lake and Pine River reservoirs where the prehistory is similar. The expanded interpretation could include additional on-site interpretation at the adjacent Langer Site.
9. An evaluation of the Middle Historic Lumbering headquarters site on Cross Lake should follow intensive survey of that site. As a center of one of the most important white pinneries in Minnesota, the site offers considerable interpretative potential.
10. Pokegama Lake Reservoir offers little interpretative potential in that the Corps owned dam site area is very small and would be difficult to develop further. The intensive use lumbering phase of the culture sequence is being developed nearby in a forest history interpretative center by the Minnesota Historical Society and it would be unwise to attempt any interpretation that would duplicate that effort.
11. Leech Lake offers considerable potential for public interpretation of segments of the local geology, vegetation history, the prehistoric sequence, and the historic Chippewa and Euro-American sequence. Full interpretation depends upon additional data from intensive survey and a fuller exploration of the Leech Lake Reservation historic record, but an interpretative center associated with one or more significant and relatively undisturbed sites offers major potential. Such an interpretation plan would be best developed as a cooperative effort between the Corps of Engineers, the Chippewa National Forest, and the Leech Lake Reservation Business Committee. The interpretation should include the Lake Winnibigoshish Reservoir data and should focus on the American Indian, both in the pre-European-American cultural systems and in the interaction of those systems with the intrusive Euro-American groups. The Leech Lake Reservation Business Committee should head the cooperative effort and the center should be operated by that group. It would offer a unique example of interagency cooperation and initiative.

- Acton, Cindy, Anna Chilsen, Stanley M. Hilchey III, Kirby Schwarzkopf and Robert C. Voegel
1978 "Cultural Resource Inventory of the Pine River Reservoir (Upper and Lower Whitefish Lakes, Crow Wing County)." Mss., Archaeology Laboratory, University of Minnesota.
- Aguar, Jyring, Whiteman and Moser
1968 Outdoor Recreation Resources in Itasca County. Duluth.
- Aguar, Whiteman, Jyring and Moser
1970 Outdoor Recreation Plan: Crow Wing County. Duluth
- Anfinson, John O.
1979 "Literature Search: The Leech Lake, Minnesota, Chippewa in the Nineteenth Century Based on the Congressional Record." Mss., Archaeology Laboratory, University of Minnesota.
- Anonymous
1925 Vacation Days; a Complete Guide to the Hotels and Vacation Places in Minnesota. Minneapolis Civic and Commerce Association, Publicity Bureau.
- Baerreis, David and Bryson, Reid
1965 "Climatic episodes and the dating of Mississippian Cultures." Wisconsin Archaeologist, 46:203-220.
- Birk, Douglas A.
1970 Leech Lake Research. Mss., Copy in Archaeology Laboratory, University of Minnesota.
1975 The Bonga Connection. Minnesota Historical Society, Office Memorandum.
1977 Two Sandy Lake Ware Vessels from Onigum Point, Minnesota Archaeologist, 36:1:9-15. St. Paul.
- Birk, Douglas and Ted Lofstrom
1977 "Survey of Marina and Associated Development for Mert Lego, Federal Dam, Cass County, Minnesota." Minnesota Historical Society, Mss.
- Bishop, Charles A.
1974 The Northern Ojibwa and the Fur Trade. Toronto: Holt, Rinehart and Winston of Canada.
- Borchert, John R. and Donald P. Yaeger
1969 Atlas of Minnesota Resources and Settlement. Minnesota State Planning Agency, St. Paul.
- Bray, Martha Coleman, ed.
1970 The Journals of Joseph N. Nicollet. Minnesota Historical Society, St. Paul.
- Brower, Jacob V.
1893 The Mississippi River and its Source. Harrison and Smith, Minneapolis.

Caine, Christy A.H.

- 1974 "The Archaeology of the Snake River Region." in Aspects of Upper Great Lakes Anthropology. E. Johnson, ed., Minnesota Prehistoric Archaeology Series, No. 11, Minnesota Historical Society, St. Paul.

Campbell, Marjorie

- 1957 The Northwest Company. New York: St. Martins Press.

Center for Environmental Studies

- 1973 Environmental Review of the Headwaters of the Mississippi Reservoir Projects. Bemidji State College (Univ.).

Cleland, Charles E.

- 1966 The Pleistocene Animal Ecology and Ethnozoology of the Upper Great Lakes Region, University of Michigan Anthropological Papers. No. 29, 294 p.

Cooper, Leland R., and Elden Johnson

- 1964 Sandy Lake Ware and Its Distribution, American Antiquity, 29:474-479, Salt Lake City.

Derby, Carol, Linda Mitchell, Mike Smith and Kim Vincent

- 1978 "Gull Lake Reservoir Historical Literature Search." Mss. Archaeology Laboratory, University of Minnesota.

Ewen, Charles, Jerry Lee, Laurie Lucking and Carole L. Schluter

- 1978 "Reports on the Pokegama Reservoir." Mss. Archaeology Laboratory, University of Minnesota.

Fiske, Timothy

- 1966 "Historic Sites Archaeological Survey", Minnesota Archaeologist, 28:4, St. Paul.

Folwell, William Watts

- 1956 History of Minnesota. Minnesota Historical Society, St. Paul. 4 vols.

Gibbon, Guy E.

- 1975 The Brower Site: A Middle Woodland Mound and Camp Site on Lake Onamia. Minnesota Archaeologist, 34:1, 2:1-43. St. Paul.

Garen, George M. and Charles T. Ekman

- 1910 Gull Lake Reservoir Dam. Civil Engineer Thesis, University of Minnesota.

Gates, Charles M.

- 1933 Five Fur Traders of the Northwest. Minneapolis: University of Minnesota Press.

Gilman, R. R.

- 1970 "Last Days of the Upper Mississippi Fur Trade." Minnesota History, 42:4. St. Paul.
1974 "The Fur Trade in the Upper Mississippi Valley." Wisconsin Magazine of History, 58:1, Madison.

- Griffin, J. B.
1960 Climatic change: Contributory cause of the growth and decline of northern Hopewell culture, Wisconsin Archaeologist, vol. 41, p. 21-33.
- Grigal, D. F., Severson, Ronald C., and Goltz, G. E.
1976 Evidence of eolian activity in north central Minnesota 8,000 to 5,000 years ago, Geol. Soc. of America Bulletin, vol. 87, p. 1251-1254.
- Hickerson, Harold
1965 "William Boutwell of the American Board and the Pillager Chippewas: The History of a Failure." Ethnohistory 12:1:1-29.
1974 Chippewa Indians II: Ethnohistory of the Mississippi Bands and Pillager and Winnebagoish Bands of Chippewa. Garland Publishing Inc., New York.
- Hudak, J., and Ready, T.
1979 Cultural Resources Inventory of Lands Adjacent to Big Sandy Lake. Science Museum of Minnesota, St. Paul.
- Jacobson, George L., Jr.
1975 A palynological study of the history and ecology of white pine in Minnesota, Ph.D. Thesis, University of Minnesota, 140 p.
- Jenks, Albert E.
1937 Minnesota's Browns Valley Man and Associated Burial Artifacts. American Anthropological Association, Memoirs, No. 49.
- Johnson, Donald R.
1969 Returns of the American Fur Company, 1835-1839, Journal of Mammalogy, vol. 50, No. 4, p. 836-839.
- Johnson, Elden
1964 Twenty New Radiocarbon Dates from Minnesota Archaeological Sites, Minnesota Archaeologist, 26:34-49, Minneapolis.
1971 "Excavations at the Gull Lake Dam (21 CA 27)" in Minnesota Archaeologist, 31:44-69. St. Paul.
1973 The Arvilla Complex. Minnesota Prehistoric Archaeological Series. Minnesota Historical Society, St. Paul.
1975 Survey and Testing at Federal Dam, Leech Lake: Final Report. Mss. Contract DACW 37-75-C-0150. Archaeology Laboratory, University of Minnesota.
1978 The Prehistoric Peoples of Minnesota. Minnesota Prehistoric Archaeology Series, No. 3. 2nd rev. ed., Minnesota Historical Society, St. Paul.
- Johnson, Elden, Harrison, C., and Schaaf, J.
1977 Cultural Resources Inventory of Lands Adjacent to Lake Winnibigoshish. Archaeology Lab., University of Minnesota.
- Johnson, Elden, and Jeanne Schaaf
1978 Cultural Resources Investigation at the Lake Winnibigoshish Dam Site - 21IC4. Report submitted to the U.S. Army Corps of Engineers, St. Paul District. Archaeology Laboratory, University of Minnesota, Minneapolis.

- Kane, Lucile M. and Kathryn A. Johnson (Comp)
 1955 Manuscripts Collections of the Minnesota Historical Society: Guide Number Two. St. Paul: Minnesota Historical Society.
- Larson, Agnes M.
 1949 History of the White Pine Industry in Minnesota. University of Minnesota Press, Minneapolis.
- Lass, William E.
 1977 Minnesota. W. W. Norton Co., New York
- Lucas, Lydia A. (Comp)
 1977 Manuscripts Collections of the Minnesota Historical Society: Guide Number Three. St. Paul: Minnesota Historical Society.
- Loeher, Rodney C.
 1946 "Minnesota's Logging Railroads." Minnesota Historical Society, Collections, 46:300-308. St. Paul.
- Lothson, Gordon
 1972 "Burial Mounds of the Mille Lacs Lake Area." M.A. thesis, University of Minnesota, Archaeology Laboratory. Minneapolis.
- Lund, Duane R.
 1977 Tales of Four Lakes: Leech Lake, Gull Lake, Mille Lacs Lake, The Red Lakes and the Crow Wing River. Nordell Communications, Staples.
- Lugenbeal, Edward
 1978a Brainerd Ware Occurrence and Chronological Relationships. In Some Studies of Minnesota Prehistoric Ceramics; Occasional Papers in Minnesota Anthropology, ed. Alan R. Woolworth; 47-55. St. Paul.
 1978b The Laurel Ceramics of the Smith Site (21KC3) and Their Implications for Culture History in Northern Minnesota. In Some Studies of Minnesota Prehistoric Ceramics; Occasional Papers in Minnesota Anthropology, ed. Alan R. Woolworth; 35-46. St. Paul
 1978c The Ceramics of the White Oak Point Site. Mss. Archaeology Laboratory, University of Minnesota, Minneapolis.
- McAndrews, J. H.
 1966 Postglacial history of prairie savanna and forest in northeastern Minnesota, Memoirs, Torrey Botanical Club, No. 22.
 1969 Paleobotany of a wild rice lake in Minnesota, Canadian Journal of Botany, 47: 1671-1679.
- Mason, Philip P., ed.
 1958 Schoolcraft Expedition to Lake Itasca. Michigan State University Press.
- Minnesota Historical Society
 n.d. Works Progress Administration, Minnesota Papers, 1849-1942. Unpublished index.
- Minnesota, State of
 n.d. State Land Grant Records. Bureau of Land Management, Department of Natural Resources. St. Paul.

Nicollet, Joseph N.

- 1843 and 1845 Map of the Hydrographical Basin of the Upper Mississippi River. Washington: U.S. House of Representatives.

Neumann, Thomas W.

- 1975 A Study of 21CA58: An Analysis of a Multicomponent Middle Woodland Site on the Shores of Lake Gayashi. Master's thesis, University of Minnesota, ARchaeology Laboratory.
1978 Classification of Net Impressed Pottery from Central Minnesota. In Some Studies of Minnesota Prehistoric Ceramics; Occasional Papers in Minnesota Anthropology, ed. Alan R. Woolworth; 56-65. St. Paul.

Neumann, Thomas and Elden Johnson

- 1979 Lithic Analysis of the Patrow Site. Midcontinent Journal of Archaeology. Accepted for publication.

Pike, Zebulon

- 1810 Expedition to the Source of the Mississippi, Philadelphia. (Ross and Haines reprint series, Minneapolis.)

North West Company Papers

- n.d. 1763 - 1821. Mss. (Records, Ledgers, Letter Books, etc.), Microfilm and photostats. St. Paul: Minnesota Historical Society Archives.

Quinn, James M.

- 1933 Letter to Crow Wing County Historical Society. Mss., Brainerd.

Robinson, James D.

- 1972 "History of the Minnesota Chippewa: A Special Reference to Land Tenure," University of Minnesota Thesis 76128, Minneapolis.

Rosenbaum, Barbara, Tamzin Brown, Bruce Arnold and Emilie Lee

- 1978 "A Survey of the Locations of Cultural Sites Along the Shores of Leech Lake in Cass County, Minnesota, as they Appear in Historical Sources." Mss. Archaeology Laboratory, University of Minnesota.

Rottsohlk, James S.

- 1960 Pines, Mines and Lakes. Itasca County Historical Society.

Schneider, A. F.

- 1961 Pleistocene geology of the Randall region, central Minnesota: Minnesota Geol. Survey, Bull. 40, 151 p.

Schoolcraft, H. R.

- 1834 Narrative of an Expedition. Harper and Brothers, New York.
1958 Expedition to Lake Itasca. Edited by Philip R. Manson, Michigan State Press.

Shay, Creighton Thomas

- 1971 The Itasca Bison Kill Site: An Ecological Analysis. Minnesota Prehistoric Archaeology Series, No. 6, Minnesota Historical Society, St. Paul.

Stanchfield, Daniel

- 1859 "History of Pioneer Lumbering of the Upper Mississippi and its Tributaries." Minnesota Historical Society, Collections, 9:325-363. St. Paul.

Steinbring, Jack

- 1974 The Preceramic Archaeology of Northern Minnesota. In, Aspects of Upper Great Lakes Anthropology, Ed. E. Johnson, Minnesota Prehistoric Archaeology Series No. 11. Minnesota Historical Society, St. Paul.

Stoltman, James B.

- 1971 Prismatic Blades from Northern Minnesota. Plains Anthropologist, 16:52:105-110. Lincoln.
1973 The Laurel Culture in Minnesota." Minnesota Prehistoric Archaeology Series No. 8, Minnesota Historical Society. St. Paul.

Trygg, J. William

- 1964 "Composit Map of United States Land Surveyors' Original Plat and Field Notes: Minnesota Series. Ely, Minnesota.

U. S. Army Engineer District, St. Paul Corps of Engineers

- 1977 Mississippi River Headwaters Reservoirs: Master Plan for Public Use Development and Resource Management.

Warren, William W.

- 1970 History of the Ojibwa Nation. Ross and Haines, Inc., reprint series. Minneapolis.

White, B. M.

- 1977 The Fur Trade in Minnesota: An Introductory Guide to the Manuscript Sources, Minnesota Historical Society, St. Paul.

Wilford, Lloyd A.

- 1941 "A Tentative Classification of the Prehistoric Cultures of Minnesota," in American Antiquity, 6:231-249, Menasha.
1943 The Osufsen Mound. Unpublished Mss., Department of Anthropology, University of Minnesota.
1955 "A Revised Classification of the Prehistoric Cultures of Minnesota," American Antiquity, 21:130-142, Salt Lake City.
1959 "White Oak Mounds and Village." Unpublished Mss., Department of Anthropology, University of Minnesota.

Wilford, Lloyd A., Elden Johnson and Joan Vicinus

- 1969 Burial Mounds of Central Minnesota. Minnesota Prehistoric Archaeological Series, No. 1, Minnesota Historical Society, St. Paul.

Winchell, Newton H., ed.

- 1911 The Aborigines of Minnesota. Minnesota Historical Society, St. Paul.

Wright, H. E. Jr.

- 1971 Late Quaternary Vegetational History of North America, in Turekain, K.K., ed., The Late Cenozoic glacial ages: New Haven, Yale University Press, p. 425-464.
1972 Physiography of Minnesota, p. 561-578. Quaternary History of Minnesota in Sims, P. K., and Morey, G. B., eds., Geology of Minnesota a Centennial Volume: Mn. Geol. Survey, p. 515-548.

- Wright, H. E., Jr., Matsch, Charles L., and Cushing, Edward J.
1973 Superior and Des Moines Lobes, Geological Society of America Memoir 136, p. 153-185.
- Wright, H. E., Jr., and Ruhe, R. V.
1965 Glaciation of Minnesota and Iowa, in Wright, H. E., Jr., and Frey, D. G., eds., The Quaternary of the United States: Princeton, Princeton University Press, p. 29-41.
- Wright, H. E., Jr., and Watts, W. A.
1969 Glacial and Vegetational History of Northeastern Minnesota, Mn. Geol. Survey, Special Pub., No. 11.

Appendix A

Vitae of Personnel

RESUME

CHRISTY A. H. CAINE

I. Personal Data:

Born, 1944

Present address: 1802 Juliet Ave.
St. Paul, Minn. 55105

II. Education:

Ph. D. Candidate in anthropology, University of Minnesota
Dissertation topic: Typological and Stylistic Approaches
to the Analysis of Minnesota-Wisconsin Middle Woodland.
(expected, 1979)

Master of Arts: University of Minnesota, dept. of anthropology, 1969
Thesis topic: The Archaeology of the Snake River Valley, Minnesota.

Bachelor of Arts, magna cum laude and with special honors, Hamline
University, 1966

III. Teaching Experience:

1976-present	Instructor, Hamline University, Dept. of anthropology
1973-76	Instructor, University of Minnesota Division of Evening Classes
1974-75	Teaching Associate II, Anthropology Dept., University of Minnesota
1971-72	Lecturer, St. Martha's School of Nursing, Antigonish, Nova Scotia
1970-71	Instructor, Normandale State Community College, Bloomington, Minnesota
1966-69	Graduate Teaching Fellow, Anthropology Dept., University of Minnesota

Courses Taught

Introduction to Anthropology
Introduction to Physical Anthropology
Introduction to Cultural Anthropology
Introduction to Sociology
Anthropology of the Nacirema

North American Archaeology
Methods in Archaeology
Introduction to Field
Methods in Archaeology
Advanced Field Methods
in Archaeology

Laboratory Techniques in Archaeology
Principles of Bio-Cultural Evolution
Human Evolution
Topics in Physical Anthropology
Cultural Systems of Prehistoric
Food-Producing Societies

Teacher Training Courses Taught

Minnesota's Prehistory

Anthropology for High School Teachers

Para-Professional Certification Program
Courses Taught: Minnesota Archaeological
Society and Council for Minnesota
Archaeology:

Ceramic Analysis

Laboratory Techniques

IV. Other Professional Experience:

1977-present Supervision of Archaeology program and contract work,
Hamline University; Archaeological fieldwork
1975-76 Acting State Archaeologist, Minnesota
1974-75 Archaeological fieldwork, University of Minnesota
1972-74 Research Assistant, Dept. of Anthropology, University
of Minnesota
1970 Interviewer, Mexican-American Acculturation Study,
University of Minnesota
1966-69 Laboratory Assistant, Dept. of Anthropology Archaeology
Laboratory, University of Minnesota
1966-68 Archaeological Fieldwork, University of Minnesota
1965 Archaeological Fieldwork, Hamline University

Museum Consultant Experience

Planned and designed displays for the interpretation center at
the Gull Lake Dam Recreation Area, U.S. Army Corps of
Engineers, 1973 and 1975

Assisted with plans and preparation of display materials for
the Mille Lacs-Kathio interpretation center, Dept. of
Natural Resources, 1974

Research Reports (Unpublished)

"The Altern Site, Northwestern Wisconsin," Hamline University, 1977

"Archaeological Sites in Minnesota State Parks," University of
Minnesota Archaeological Laboratory; background research, 1974

Excavation and Survey Reports

"Archaeological Survey at Bear Creek Park, Rochester, Minnesota," 1978,
for Rochester Park and Recreation Department

"Archaeological Survey at Two Harbors, Minnesota," 1975, for Weston
Associates and Duluth Mesabe and Iron Range Railway

"Archaeological Survey at Port Wing Harbor, Wisconsin," 1975, for
the U.S. Army Corps of Engineers, St. Paul

"Archaeological Survey at Cornucopia Harbor," 1975, for the
U.S. Army Corps of Engineers, St. Paul

"Archaeological Survey at Chippewa Diversion," 1975, for
the U.S. Army Corps of Engineers, St. Paul

"Archaeological Survey at Big Bay, Michigan," 1975, for the
U.S. Army Corps of Engineers, St. Paul

"Archaeological Survey at Rushford, Minnesota," 1975, for
the U.S. Army Corps of Engineers, St. Paul

"An Archaeological Survey of the Big Stone Reservoir," 1974,
for the U.S. Army Corps of Engineers

"Archaeological Excavations at 21-CA-58," 1974, for the
U.S. Army Corps of Engineers

Excavation Experience

Co-Director, joint Hamline University and Mankato State University
Field School at Swan Lake Area, Minnesota, 1977

Director, University of Minnesota Field School Excavations at
Gull Lake Dam Recreation Area, 1974

Prairie du Chien (Historic), Wisconsin, 1975

Gull Lake Dam Village Site (multi-component Woodland), Cass Co.,
Minnesota, 1974

Cooper Village Site (Late Woodland, Mississippian), Mille Lacs
County, Minnesota, 1966 and 1968

Stumme Mound Site (Middle Woodland), Pine County, Minnesota, 1967

Vach Village Sites (multi-component Archaic and Woodland), Pine
County, Minnesota, 1967

Petaga Point Site (Archaic component), Mille Lacs County,
Minnesota, 1966

Neubauer Village Site (Late Woodland), Pine County, Minnesota, 1966

Extensive site survey experience in Minnesota, Wisconsin, and
Michigan, 1966, 1968, 1974, 1975, 1977, 1978.

V. Publications, Presented Papers, and Symposia

Publications

"The Archaeology of East-Central Minnesota," in Aspects of Anthropology
in the Western Great Lakes, E. Johnson, ed., Minnesota Historical
Society, 1974.

"Copper Artifacts in the Vach Collection, Pine County, Minnesota,"
Minnesota Archaeological Newsletter, No. 18, 1973.

"The Clarence Currie Collection from St. Croix State Park, Minnesota,"
Wisconsin Archaeologist, Vol. 53, No. 2, 1972 (with T. A. Caine)

"Big-Game Hunting Artifacts from Minnesota," Plains Anthropologist, 13-40, 1968.

"The Neubauer Site: A Late Woodland Site in Pine County, Minnesota," The Minnesota Archaeologist, Vol. XXCII, No. 11, 1966.

Papers Presented and Symposia

"The Middle Woodland Transition in Minnesota," co-authored with Guy E. Gibbon, presented in a symposium on "Middle Woodland Archaeology," at the Society for American Archaeology annual meeting in St. Louis, 1976.

"Labor Value, Sex Roles, and Power," presented at Department of Anthropology Colloquium, University of Minnesota, 1975

"The Evolution of Male Dominance Patterns," presented at the Midwest Sociological Society Annual Meeting, Chicago, 1975 (co-authored with T.A. Caine)

Organized and Chaired Symposia for the Council for Minnesota Archaeology:

"Minnesota Ceramic Types: An Assessment", 1976, Science Museum

"Minnesota Settlement-Subsistence Systems," 1977, Hamline University

"New Field and Laboratory Approaches in Minnesota Archaeology," 1978 Hamline University

In Preparation

Doing Archaeology: Exercises and Experiences. (with Ken Wedding)

A laboratory workbook for archaeology courses.

"Problems and Prospects in Minnesota Ceramic Analyses," in Minnesota Ceramic Types, in press, Minnesota Archaeological Society Occasional Papers series

VI. Primary Areas of Interest

North American Archaeology, particularly Great Lakes
Archaeological Method and Theory
Social-Cultural Change
North American Indian Cultures
Cultural and Ethnic Minorities

VII. Professional Organizations

Member, State Review Board for the National Register of Historic Places.

Society for American Archaeology
American Anthropological Association
Council on Anthropology and Education
Council for Minnesota Archaeology (Ethics and Membership Committee)
International Women's Anthropology Conference

VIII. Awards and Honorary Organizations:

Pi Gamma Mu (National Social Science Honorary)
Alpha Kappa Delta (National Sociology Honorary)
Kappa Phi (Scholastic Honorary)
Cooper Award in Archaeology, 1966
Donald E. Bridgeman Prize, 1966

IX. Some Current Interests:

My work in archaeology is presently focusing on the definition of a previously unknown Middle Woodland culture in northwestern Wisconsin-eastern Minnesota, and the development of a new method for comparing Middle Woodland ceramic materials. I am dealing particularly with the problems of defining cultural interfaces and change processes, and their relationship to archaeological methodology.

For the past year I have been engaged in a joint research project with Dr. J. Spector, University of Minnesota. The project focuses on Task Differentiation Structures and involves constructing behavioral chain models from ethnographic sources and applying them to archaeological data. Funds for initiating the project have been provided by the University of Minnesota. Dr. Spector and I are presently co-authoring an article based on the initial phase of this research.

X. References:

Professor Elden Johnson
Department of Anthropology
University of Minnesota
Minneapolis, Minnesota 55455

Professor Janet Spector
Department of Anthropology
University of Minnesota
Minneapolis, Minnesota 55455

Dr. Eugene Ogan
Department of Anthropology
University of Minnesota
Minneapolis, Minnesota 55455

Dr. Cynthia Cone
Department of Anthropology
Hamline University
St. Paul, Minnesota 55104

VITA---G. JOSEPH HUDAK

Current: Gary Joseph Hudak, President
Archaeological Field Services, Inc.
421 South Main Street, Suite 421-E
Stillwater, Minnesota 55082

Education:

- 1971 B.A. Degree
University of Minnesota
Minneapolis, Minnesota 55455
- 1974 M.A. Degree
University of Nebraska
Lincoln, Nebraska

Teaching Assistantships:

- 1970, 1971 University of Minnesota, under Dr. Elden Johnson
(undergraduate)
- 1972, 1973 University of Nebraska, under Dr. Warren Caldwell
(graduate)

Teaching Positions:

- 1973 The Pedersen Site (21 LN 2), taught University of Minnesota
Archaeological Field School.
- 1974 The Pedersen Site (21 LN 2), taught Macalester College and
Hamline University combined Field School.
- 1973- Taught internship students from Macalester College and Hamline
1975 University, while employed at The Science Museum of Minnesota.
- 1977 Taught Southwest State Field School at a salvage site near
Granite Falls, Minnesota (project done under the auspices of
the Minnesota Department of Transportation, The Science Museum
of Minnesota and Southwest State University at Marshall, MN).

Professional Organizations:

Society for American Archaeology
Society of Professional Archaeologists
Plains Anthropological Association
American Anthropological Association
Council for Minnesota Archaeology
Minnesota Archaeological Society

Archaeological Field Experience:

- 1969 Prairie Island Village Site - University of Minnesota;
Field crew member.
- 1969 Gull Lake Mound and Village Site - University of Minnesota;
Field assistant.
- 1970 Smith and McKinstry Mounds - University of Minnesota;
Field teaching assistant.
- 1970 Northeastern Minnesota Wild Rice Archaeological Survey and
Transect - University of Minnesota
Survey specialist.
- 1971 Southwestern Minnesota Archaeological Survey - University of
Minnesota;
Survey specialist.
- 1971 Thompson and Nelson Village Sites - University of Minnesota
and University of Nebraska;
Field assistant.
- 1972 Mille Lacs Lake & Kathio and Anderson Village Sites - State
Parks Archaeologist for the Department of Natural Resources
- 1972 Big Stone State Park Archaeological Survey - University of
Minnesota;
Survey specialist.
- 1972 Blue Mounds Archaeological Site - University of Minnesota;
Survey specialist.
- 1973 The Pedersen Site - The Science Museum of Minnesota;
Field director.
- 1974 The Pedersen Site - The Science Museum of Minnesota;
Field director.
- 1974 Wild River Archaeological Survey - The Science Museum of
Minnesota;
Survey director.
- 1974 South Zumbro Watershed District Archaeological Survey - The
Science Museum of Minnesota;
Survey director.
- 1974 Lake Hanska Archaeological Survey - The Science Museum of
Minnesota;
Survey director.

- 1975 Southern Minnesota Archaeological Survey and Transect -
The Science Museum of Minnesota (William F. McKnight Foundation);
Field director.
- 1975 Archaeological Survey of the Proposed Winona Levee Flood
Control Project Stage II - The Science Museum of Minnesota
(St. Paul District Corps of Engineers);
Project director.
- 1975 Archaeological Survey of the 1975 Season Dredge Spoil Deposit
Sites in Mississippi River Pools USAF-5 - The Science Museum
of Minnesota (St. Paul District Corps of Engineers);
Field director.
- 1975 Pike Island Survey - The Science Museum of Minnesota (St. Paul
District Corps of Engineers);
Project director.
- 1976 The Mountain Lake Site - The Science Museum of Minnesota;
Project director.
- 1976 Wright County Salvage Excavation - The Science Museum of
Minnesota;
Project director.
- 1977 Archaeological Survey of the Isanti County Rum River Bridge
Project No. 30508 - The Science Museum of Minnesota;
Project director.
- 1977 Archaeological Survey of the Talcott Lake County Park -
The Science Museum of Minnesota;
Project director.
- 1977 Archaeological Survey and Salvage of Sites near Granite Falls,
Minnesota - The Science Museum of Minnesota (Minnesota Department of Transportation);
Project director.
- 1977 Archaeological Survey of Lands Adjacent to the Big Sandy
Lake Reservoir - The Science Museum of Minnesota (St. Paul
District Corps of Engineers);
Project director.
- 1978 Archaeological Survey of the Snake River Footbridge Crossing
Site - Archaeological Field Services, Inc. (Minnesota Department of Natural Resources);
Field director.

- 1978 Archaeological Survey of Lands Adjacent to the Pine River Reservoir - Archaeological Field Services, Inc. (University of Minnesota and Corps of Engineers project); Project director.
- 1978 Archaeological Survey of the City of Brainerd - Water and Light Department, Mississippi River Powerline Crossing; Crow Wing County; Archaeological Field Services, Inc.; Principal investigator.
- 1978 Archaeological Reconnaissance Survey of Subdivision No. 3627, Creekwood Estates, Coon Rapids, Anoka County, Minnesota; Archaeological Field Services, Inc.; Principal investigator.
- 1978 Archaeological Survey of Sunny Acres Estates, Anoka County; Archaeological Field Services, Inc.; Principal investigator.
- 1978 Archaeological Reconnaissance Survey within Garvin Park, Lyon County; Archaeological Field Services Inc.; Principal investigator.
- 1978 Archaeological Survey of the 90 Acre Dam Construction Site in the Sartell Wildlife Management Area on Little Rock Creek, Benton County; Archaeological Field Services, Inc.; Principal investigator.
- 1978 Archaeological Reconnaissance Survey of the Loon Lake Wildlife Refuge, Jackson County and the Fergus Falls Refuge, Ottertail County; for the U. S. Department of Interior, Archaeological Field Services, Inc. Principal investigator.
- 1978 Archaeological Reconnaissance Survey of approximately 10 Acres for the Proposed Waste Water Treatment Facilities at Fountain, Fillmore County; Archaeological Field Services, Inc.; Principal investigator.
- 1978 Archaeological Reconnaissance Survey of the Sherburne National Wildlife Refuge Water Control Structures Planned for 1978 - 1979: Dikes, Kitches and Borrow Pits, Sherburne County, for the U. S. Department of Interior, U. S. Fish and Wildlife, Archaeological Field Services, Inc.; Principal investigator.
- 1978 Archaeological Survey of a Portion of the Maka-Dicu County Park, Nobles County; Archaeological Field Services, Inc.; Principal investigator.

- 1978 Archaeological Reconnaissance Survey of the Proposed U. S. Fish and Wildlife Service Earthen Dike and Water Control Structure in Blakesley Slough Waterfowl Production Area on the Pomm De Terre River, Grant County; Archaeological Field Services, Inc.
Principal investigator.
- 1978 Records Search of the Proposed Trunk Highways 610 and 169 Corridors, Anoka and Hennepin Counties; Bather, Ringrose, Wolsfeld, Jarvis and Gardner, Inc.; Archaeological Field Services, Inc.;
Principal investigator.
- 1978 Archaeological Reconnaissance Survey of the Department of Natural Resource's Trails at Wasburn Lake, Spider Lake and Fond du Lac, Cass and Carlton County; Archaeological Field Services, Inc.;
Principal investigator.
- 1979 A Cultural Resources Survey of Proposed Undertakings within the Chippewa National Forest in Beltrami, Cass and Itasca Counties for the U. S. Department of Agriculture, Forest Service; Archaeological Field Services, Inc.;
Principal investigator.
- 1979 Archaeological Reconnaissance Survey of Upland Disposal Areas, Golf Course Improvement Areas and Additional Real Estate Development Areas for the U. S. Army Corps of Engineers, Mille Lacs County; Archaeological Field Services, Inc.;
Principal investigator.
- 1979 Cultural Resource Awareness Training Session on the Superior National Forest in Duluth, Minnesota, for the U. S. Department of Agriculture, Forest Service; Archaeological Field Services, Inc.;
Principal investigator.
- 1979 A Cultural Resources Records Check of the Rum River, Anoka Counties, for the Minnesota Department of Natural Resources; Division of Parks and Recreation; Archaeological Field Services, Inc.;
Principal investigator.
- 1979 Archaeological Reconnaissance Survey of a Portion of the Benson Wetlands (Edwards Site), Stevens County, for the U.S. Department of the Interior, U.S. Fish and Wildlife; Archaeological Field Services, Inc.;
Principal investigator.

Publications:

- 1972 "Boulder Outlines in Southwestern Minnesota", Plains Anthropologist, Volume 17-58, Pt. 1.
- 1975 "The First Pottery Makes of Southwestern Minnesota", The Explorer Magazine, Volume 17, No. 2.
- 1975 "An Early Woodland Pottery Vessel from Minnesota", joint publication with Elden Johnson, Scientific Publications of The Science Museum of Minnesota, New Series Volume 2, No. 4.
- 1976 "Woodland Ceramics from The Pederson Site", Scientific Publications of The Science Museum of Minnesota, New Series, Volume 3, No. 2.

Occupational References:

Robert Post, Chief
Environmental Resources Branch
St. Paul District
U.S. Army Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

Elden Johnson, Chairman
Department of Anthropology
The University of Minnesota
Minneapolis, Minnesota 55455

Clement P. Kachelmyer, Preliminary Design Engineer
Minnesota Department of Transportation
Transportation Building
St. Paul, Minnesota 55101

James B. Druck, Attorney at Law
1709 Cargill Building
Minneapolis, Minnesota 55402

Steven R. King, President
Title Services, Inc.
702 Baker Building
Minneapolis, Minnesota 55402

ABBREVIATED RESUME

Elden Johnson
Professor of Anthropology
Department of Anthropology
University of Minnesota
215 Ford Hall
224 Church St. S.E.
Minneapolis, Minnesota 55455
(612) 373-0221

3620 Coolidge St. N. E.
Minneapolis, Minnesota 55418
(612) 789-4966

Born: Brookings, South Dakota, 24 October 1923

Professional employment and offices:

1953-55 Curator of Anthropology, Science Museum, St. Paul, Minnesota
1955-58 Assistant Professor of Anthropology, University of Minnesota
1958-59 Director of Science Museum and Assistant Professor, University of Minnesota
1959-65 Associate Professor, University of Minnesota
1965-to date Professor of Anthropology, University of Minnesota
1963-78 State Archaeologist, Minnesota
1972-75 Chairperson, Department of Anthropology, University of Minnesota
1977- Chairperson, Department of Anthropology, University of Minnesota

Education:

1940-41 University of New Mexico
1945-48 University of Minnesota
1948-50 University of Minnesota
1950-53 Yale University

Field Research:

1949 Standing Rock Reservation, North Dakota, ethnology
1952-53 Thailand/Cambodia, ethnology
1953-56 Spring Lake, Minnesota, archaeology and ethnohistory
1959-76 Minnesota, North Dakota, annual archaeological research
1967 Paleolithic site survey, Pakistan

Professional Associations:

American Anthropological Association, Fellow
Society for American Archaeology
American Association for the Advancement of Science
Sigma Xi
Council for Minnesota Archaeology

Fellowship and awards:

1950-52 Yale University Graduate Fellow
1952-53 Ford Foundation Foreign Area Training Fellow
1960-61 National Science Foundation Research Grant
1966-67 Hill Family Foundation Research Grant
1967 University of Minnesota Graduate School Research Grant

Cultural Resources Contracts:

- 1975 Leech Lake, Federal Dam Survey. St. Paul District, Corps of Engineers
- 1976-77 Lake Winnibigoshish Reservoir Survey, St. Paul District, Corps
of Engineers
- 1977-78 Lake Winnibigoshish Dam Site mitigation, Corps of Engineers, St.
Paul District
- 1978-79 Headwaters Reservoirs Survey, Corps of Engineers. St. Paul District.

LIST OF PUBLICATIONS

Elden Johnson
University of Minnesota

- 1954 Review: Walam Olum or Red Score: The Migration Legend of the Lenni Lenape or Delaware Indians, Indiana Historical Society. Minnesota History, Vol. 34, No. 4, p. 160.
- 1955 "Carl Bodmer Paints the Indian Frontier." Indian Leaflets, No's. 8, 9, 10. The Science Museum, St. Paul.
- "A Human Effigy Pipe from North Dakota." Plains Anthropologist, No. 5, p. 11, December 1955.
- "Indian Houses." Gopher Historian, Vol. 10, No. 5, pp. 16-17.
- Review: The Micmac Indians of Eastern Canada, by Wilson D. and Ruth Wallis. Minnesota History, Vol. 34, No. 6, p. 257.
- 1956 "Spring Lake Archaeology: The Lee Mill Cave," (with Philip S. Taylor). Science Bulletin, No. 3, Pt. 2. Science Museum, St. Paul.
- Review: The Atlatl in North America, by James H. Kellar. American Antiquity, Vol. 22, No. 1, p. 86.
- 1957 "The Minnesota Archaeological Site File." Minnesota Archaeologist, Vol. 21, No. 2, pp. 14-16.
- "Indians before History in the Upper Mississippi Valley," (and Louis H. Powell). Guide Pamphlet, No. 3. Science Museum, St. Paul.
- "Hopewell Burial Mounds in St. Paul." Park Leaflets, No. 3. Science Museum, St. Paul.
- Review: The Indian Tipi, by Reginald and Gladys Laubin (University of Oklahoma Press, 1957). Minnesota History, December, pp. 376-377.
- 1958 Annual Report of the Director. Science Museum, St. Paul.
- 1959 "Spring Lake Archaeology: The Sorg Site." Science Bulletin, No. 3, Pt. 3. Science Museum, St. Paul.
- "An Archaic Horizon Cache from Southern Minnesota." Proceedings, Vol. 27. Minnesota Academy of Science, pp. 3-5.
- Review: Araucanian Child Life and Its Cultural Background. Smithsonian Miscellaneous Collections, Vol. 133. By Sister M. Inez Hilger, 1957. American Anthropologist, Vol. 61, No. 3, p. 530.
- Review: New Light on Old Fort Snelling, by John Callender. Minnesota Historical Society. Minnesota History, June, p. 230.

- 1960 "Cambria Burial Mounds in Big Stone County." Minnesota Archaeologist, Vol. 23, No. 3, pp. 53-81.
- "Glacial Lake Agassiz and Prehistoric Man." Minnesota Archaeological Newsletter, No. 1, pp. 4-7, March 1960.
- "A Statistical Analysis of Some Mississippian Projectile Points," (with Craig Henrikson). Proceedings, Vol. 28, pp. 89-92. Minnesota Academy of Science.
- Atlas for Anthropology, (with Robert F. Spencer). W. C. Brown, Dubuque.
- Review: Hidden America, by Roland Wells Robbins. Minnesota History, Vol. 37, No. 1, pp. 30-31.
- Review: Indian Life in the Upper Great Lakes, 11,000 B.C. to A.D. 1800, by George I. Quimby, 1960. Minnesota History, Vol. 37, No. 4, p. 174, December 1960.
- 1961 Review: Indian Life in the Upper Great Lakes, 11,000 B.C. to A.D. 1800, by George I. Quimby. American Antiquity, Vol. 27, No. 2, p. 250.
- 1962 "An Archaic Burial Site in Minnesota." Minnesota Archaeologist, Vol. 14, No. 4, pp. 92-101.
- "Notes on the Mdewakanton Bark House." Minnesota Archaeologist, Vol. 14, No. 2, pp. 49-52.
- Manual for Introductory Anthropology, (with Evelyn Hatcher). Burgess Publishing Co., Minneapolis.
- "The Prehistory of the Red River Valley." Minnesota History, Vol. 38, No. 4, pp. 157-165.
- Review: Indian Rock Paintings, by S. Dewdney and K. Kidd (University of Toronto Press). Minnesota History, Vol. 38, No. 2, p. 87.
- 1963 "The Prehistory of the Red River Valley." Minnesota Archaeologist, Vol. 25, No. 4, pp. 146-155 (Reprint of 1963 article in Minnesota History).
- 1964 "Copper Artifacts and Glacial Lake Agassiz Beaches." Minnesota Archaeologist, Vol. 26, No. 1, pp. 4-21.
- "Twenty New Radiocarbon Dates from Minnesota." Minnesota Archaeologist, Vol. 26, No. 2, pp. 35-49.
- "Sandy Lake Ware and its Distribution," (with Leland R. Cooper). American Antiquity, Vol. 29, No. 4, pp. 474-479.
- "Introduction," in J. D. Holmquist and A. H. Hillman, eds, Diving into the Past, p. 19. Minnesota Historical Society, St. Paul.

- 1965 "Tribes of the Northeast." In R. F. Spencer and J. D. Jennings, eds., The Native Americans, pp. 384-401. Harper and Row, New York.
- "Tribes of the Great Plains." In R. F. Spencer and J. D. Jennings, eds., The Native Americans, pp. 337-384. Harper and Row, New York.
- "MORRC and Archaeology." Minnesota Archaeological Newsletter, No. 7.
- 1966 "An Archaeology Program for Minnesota." Minnesota Outdoor Recreation and Resources Commission Report No. 5. St. Paul.
- Manual for Introductory Anthropology, (with Evelyn Hatcher). (Revised and reissued.) Burgess Publishing Co., Minneapolis.
- 1967 "An Unusual Copper Knife." Minnesota Archaeologist, Vol. XXIV, No. 4, pp. 104-105.
- "Prehistory in our State Parks." Conservation Volunteer, Vol. 30, No. 173, pp. 13-17.
- "An Unusual Burial from Grant County." Minnesota Archaeologist, Vol. 29, No. 2, pp. 48-51.
- 1968 Atlas for Anthropology, (with Robert F. Spencer). (Revised Edition.) W. C. Brown, Dubuque.
- 1969 "Decorative Motifs on Great Oasis Pottery." Plains Anthropologist, Vol. 14, No. 46, pp. 272-276.
- "Burial Mounds of Central Minnesota," (with Lloyd A. Wilford and Joan Vicinus). Minnesota Prehistoric Archaeology Series, No. 1. Minnesota Historical Society, St. Paul.
- "Archaeological Evidence for the Utilization of Wild Rice." Science, 163, pp. 276-277.
- "Preliminary Notes on the Prehistoric Use of Wild Rice." Minnesota Archaeologist, Vol. 30, No. 2, pp. 31-43.
- "The Birch Lake Mound Group," (with M. Q. Peterson and Jan Streiff). Journal of the Minnesota Academy of Science, 36:1, pp. 3-8.
- Review: The Hitchell Site, by Richard Johnston. Plains Anthropologist, pp. 166-167.
- "The Prehistoric Peoples of Minnesota." Minnesota Prehistoric Archaeology Series, No. 4. Minnesota Historical Society, St. Paul.
- 1970 "Prehistoric Archaeology and Public Interpretation." Minnesota History, Vol. 42, No. 4, pp. 153-154.
- "Introduction." In Lloyd A. Wilford, "Burial Mounds of the Red River Headwaters." Minnesota Prehistoric Archaeology Series, No. 5, pp. v-ix. Minnesota Historical Society, St. Paul.

- 1970 "Prehistoric Archaeology and Public Interpretation: A New Approach." Minnesota History, Vol. 42, No. 3, pp. 153-154. Reprinted in: Historic Preservation in Minnesota, by Donn Coddington. Minnesota Historical Society, 1971.
- 1971 "Archaeology and American Indian Protest." Man in the Northeast, Vol. 2, pp. 89-92.
- Review: The First American: A Story of North American Archaeology, by C. W. Ceram. Minnesota History, Vol. 42, No. 8, pp. 310-311.
- "The Northern Margin of the Prairie Peninsula." In Richard B. Johnston, Editor, The Prairie Peninsula and its Relationships to the Middle Missouri. Journal of the Iowa Archaeological Society, Vol. 18, pp. 13-21.
- "Excavations at the Gull Lake Dam." Minnesota Archaeologist, Vol. 31, No. 2, pp. 44-69.
- "Recommendations of the State Archaeologist." In Donn Coddington, editor, Historic Preservation in Minnesota. Minnesota Historical Society, St. Paul.
- 1972 Review: From Whole Log to No Log, by E. Letterman, Dillon Press. Plains Anthropologist, Vol. 17, p. 78.
- 1973 "Professional Responsibility and the American Indian." American Antiquity, Vol. 38, No. 2, pp. 129-130.
- "Interesting Archaeological Reading." Minnesota Archaeologist, Vol. 32, No's. 1 and 2, pp. 113-114.
- "Notes on a Paleolithic Site Survey in Pakistan." Asian Perspectives, Vol. 15, pp. 60-65.
- "The Arvilla Complex." Minnesota Prehistoric Archaeology Series, No. 9. Minnesota Historical Society, St. Paul.
- 1974 Editor, Upper Great Lakes Anthropology: Essays in Honor of Lloyd A. Wilford. Minnesota Prehistoric Archaeology Series, No. 11. Minnesota Historical Society, St. Paul.
- "Lloyd A. Wilford and Minnesota Archaeology." In E. Johnson, Editor, Upper Great Lakes Anthropology: Essays in Honor of Lloyd A. Wilford. Minnesota Prehistoric Archaeology Series, No. 11, pp. 1-8. Minnesota Historical Society, St. Paul.
- 1975 "An Early Woodland Pottery Vessel from Minnesota." Scientific Publications, New Series, Vol. 2, No. 4. Science Museum of Minnesota (G. J. Hudak, co-author).

- 1977 "Tribes of the Northeast." In R. F. Spencer and J. D. Jennings, eds., The Native Americans, 2nd edition, revised, Harper and Row, New York.

"Native Americans and Archaeology," compiler, in Guidelines for the Profession, special publication of the Society for American Archaeology, Washington.

"Archaeological Guidelines," with Timothy Fiske, Reprinted in Minnesota Archaeologist, 36:3:101-105. St. Paul.

Cultural Resource Inventory of Lands Adjacent to Lake Winnibigoshish.
Archaeology Laboratory, University of Minnesota 135 pp., 6 figs., 22 maps,
46 plates. Minneapolis.

- 1978 "Cultural Resource Investigation at the Lake Winnibigoshish Dam Site - 21IC4." 67 pp., 14 plates, 11 figs., 6 tables. Archaeology Laboratory Report, Contract DACW37-77-C-0139, St. Paul District, Corps of Engineers.

- 1979 "Patrow Site Lithic Analysis." with Thomas Neumann. In press: Mid-continent Journal of Archaeology.

CURRICULUM VITAE

RICHARD BERT LANE

Education:

- B.A. - University of New Mexico, 1963. Major in Anthropology, minor in Geology.
- M.A. - University of California, Santa Barbara, 1967. Major in Anthropology, emphasis in Archaeology.
- Ph.D. - University of California, Santa Barbara. Advanced to candidacy June 1968, degree expected in June 1979.

Dissertation Title and Advisor:

"Marginality and Innovation : Culture Change in Late Prehistoric Central Minnesota"

Dr. Albert C. Spaulding
Department of Anthropology
The University of California, Santa Barbara

Personal Information:

Male, married, caucasian in good health. Born 13 April 1938 in Douglas, Wyoming, U.S.A. Height 5'10", weight 160 lbs. No children. Veteran of 3 years active duty in the United States Army, honourably discharged 26 August 1962.

Areas of Interest and Specialization:

Archaeology; Culture Change; Archaeological Method and Theory; North America; Western Great Lakes and Upper Mississippi Valley

Professional Certification:

Certification by and membership in the Society of Professional Archeologists for 1977, with emphases recognized in Field Research; Library, Archival, and Theoretical Research; Museology; and Teaching.

Memberships in Professional Organizations:

Society of Professional Archeologists (Certification)
American Academy of Political and Social Science
American Anthropological Association (Voting Member)
American Association for the Advancement of Science
American Association of Physical Anthropologists
American Ethnological Society
American Folklore Society
American Society for Ethnohistory
Anthropological Society of Washington
Arctic Institute of North America
Association for Field Archaeology
Central States Anthropological Society
Council on Anthropology and Education

Council for Minnesota Archaeology (founding member; President 1973-75)
 Latin American Anthropology Group
 Minnesota Academy of Science
 Minnesota Archaeological Society
 Minnesota Historical Society
 National Trust for Historic Preservation
 Plains Anthropological Society
 Society for American Archaeology
 Society for Applied Anthropology
 Society of Architectural Historians
 Society for Historical Archaeology (founding member)
 Wisconsin Archaeological Society

Teaching Experience

June 1962 - June 1964 : As a Ford Foundation "Career Scholar" in Southwestern Anthropology at the University of New Mexico, I assisted in a number of undergraduate courses in southwestern archaeology and ethnography.

August 1966 - March 1968 : Employed as a Teaching Assistant in the Department of Anthropology, the University of California, Santa Barbara

June - August 1967 : Summer session Instructor in Anthropology, Department of Anthropology, the University of Alberta, Edmonton

March - June 1968 : Employed as Faculty Associate, Department of Anthropology, the University of California, Santa Barbara

September 1968 - present : Employed as Assistant Professor of Anthropology, Department of Sociology & Anthropology, St. Cloud State University, St. Cloud, Minnesota. Tenured as of June 1971.

March 1971 - present : Employed as part-time Lecturer in Anthropology. St. Cloud Hospital School of Nursing, St. Cloud, Minnesota

Other academic related experience:

1970 - present : member, college Honors Faculty, St. Cloud State

1971 - present : member, Latin American Studies Program, St. Cloud State University

1971 - present : member, Minority Affairs Program, St. Cloud State

1971 - present : member, departmental Faculty Evaluation Committee

1971 - present : member, College Curriculum Council, St. Cloud State University

1972 - present : departmental advisor to Anthropology Majors and Minors, St. Cloud State University

1973 - present : Head Curator and Curator of Archaeology, St. Cloud Museum of Man, St. Cloud State University

1971 - present : Lecturer in the American Anthropological Association's Visiting Lecturer Program

Field Experience (generally of 3 month duration, unless otherwise noted)

1960 - Crew member, Hell-Gap site, Wyoming.

1961 - Crew member and photographer, Hell-Gap site and Union Pacific Mammoth Kill site, Wyoming.

1962 - Site Assistant, Museum of New Mexico salvage archaeology projects, near Prewitt, New Mexico.

1963 - Site Assistant, Southern Illinois University Museum excavations near Carlyle, Illinois.

1964 - June 1964 through June 1966 - Employed as Staff Archaeologist by the, then, Department of Northern Affairs and Natural Resources Government of Canada at the Fortress of Louisbourg, Nova Scotia.

1966 - Site Director, Anasazi Origins Project excavations near Bernalillo, New Mexico.

1968 - Archaeologist, University of California, Santa Barbara, excavations near Goleta, California

1969 } Principle Investigator and Field Director of St. Cloud State
1970 } University excavations on the Sherburne National Wildlife
1971 } Refuge, near Princeton, Minnesota.

1973 - Field Director, Archaeological survey of the Big Stone National Wildlife Refuge, near Big Stone, Minnesota

1974 - Contract Archaeologist, Principle Investigator, Dome Pipeline Corporation survey across 250 mile right-of-way in southern Minnesota

Contract Archaeologist, U.S. Department of the Interior sponsored cultural inventory of the Sherburne National Wildlife Refuge near Princeton, Minnesota

1975 - Contract Archaeologist, Field Director, U.S. Army Corps of Engineers Mississippi River 9' Channel survey - Pools 5A through 8 - in southeastern Minnesota and southwestern Wisconsin

Contract Archaeologist, Principle Investigator, U.S. Army Corps of Engineers Snake River drainage flood control project, northwestern Minnesota

1976 - Field Director, joint Minnesota Historical Society/St. Cloud State University field school in historic sites archaeology, Lower Sioux Agency, near Morton, Minnesota

Papers and Publications

Papers

- 1964 - "Microlithofacies Analysis and Archaeological Stratigraphy", Society for American Archaeology annual meeting
"Micro-facies Analysis and the Historic Site", American Association for the Advancement of Science annual meeting.
- 1965 - "The Historic Site as an Archaeological Laboratory", Society for American Archaeology annual meeting.
"Historic Sites and Closed Systems", American Association for the Advancement of Science annual meeting
- 1968 - "Archaeology of the Refuge Site", Council for Minnesota Archaeology annual meeting.
"Cultural Evolution in Central Minnesota", Minnesota Academy of Science annual meeting
- 1970 - "Ritual Patterns and Burial Patterns", Minnesota Academy of Science annual meeting
"Preliminary Report on Excavations in the Sherburne National Wildlife Refuge, Minnesota", Midwest Archaeological Conference
- 1971 - "The Honker Site: A Late Prehistoric Site in Central Minnesota", Midwest Archaeological Conference
- 1972 - "Lust in the Dust : The Images of Archaeology", Minnesota Academy of Science annual meeting
- 1974 - "Pipeline Salvage Archaeology in Minnesota", Midwest Archaeological Conference
"Marginality and Innovation in Late Prehistoric Central Minnesota", American Anthropological Association annual meeting

Publications

- 1957 - "I Speak for the High Schools", American Mercury Magazine, March, New York
- 1966 - "The Fortress at Louisbourg", Archaeology, October, New York
- 1970 - "Soil Compaction and Cultural Correlation", Anthropological Journal of Canada, Ottawa
"The Citadel, Halifax, Nova Scotia", Canadian Historic Sites: Occasional Papers in Archaeology and History, Ottawa.
- 1972 - The Halifax Citadel : 1965 Excavations. Historic Sites Memoir #33, Ottawa

Book Reviews (all published in the American Association for the Advancement of Science publication AAAS Science Books & Films)

- 1967 - review of Meighan, Archaeology : An Introduction
review of Eydoux, The Buried Past : A Survey of Great Archaeological Discoveries
review of Thompson, Novgorod the Great
review of Leacroft & Leacroft, The Buildings of Ancient Greece
- 1968 - review of Riley and Taylor (eds), American Historical Anthropology : Essays in Honor of Leslie Spier
review of Freeman, Finding Out About the Past
review of Asimov, The Near East : 10,000 Years of History
- 1969 - review of Jessup, The Wonderful World of Archaeology
review of Gould, Our Living Past
- 1970 - review of van der Merwe, The Carbon-14 Dating of Iron
review of Branigan, The Foundations of Palatial Crete : A Survey of Crete in the Early Bronze Age
- 1971 - review of Munksgaard, Denmark : An Archaeological Guide
review of Rosman and Rubel, Feasting With Mine Enemy : Rank and Exchange among Northwest Coast Societies
- 1972 - review of Baker, New Zealand : Land of the Mighty Maori
review of McKern, Exploring the Unknown : Mysteries in American Archaeology
- 1973 - review of Lyttle, Polar Frontiers
- 1974 - review of Titiev, The Hopi Indians of Old Oraibi : Continuity and Change
- 1975 - review of Corliss, Strange Artifacts : A Sourcebook on Ancient Man
review of Savoy, On the Trail of the Feathered Serpent
review of Willey and Sabloff, A History of American Archaeology
review of Anderson, Western Iowa Prehistory
- 1976 - review of Shapiro, Peking Man
review of Hays, Children of the Raven : The Seven Indian Nations of the Northwest Coast
review of Katz, We Rode the Wind : Recollections of Nineteenth-Century Tribal Life

1977 - review of Moscatti, Archaeology

review of Harbison, The Archaeology of Ireland

Manuscripts Completed and/or In Press

"Excavations at the Honker Site (21-SH-15), Sherburne National Wildlife Refuge

"Excavations at the Refuge Site (21-SH-18), Sherburne National Wildlife Refuge"

"Modeling from the Mounds: An Experiment in Settlement/Subsistence Interpretation"

CURRICULUM VITA

PERSONAL:

Laurie Lucking
7276 72nd Lane North
Brooklyn Park, Minnesota 55428
Telephone: (612) 566-8326

EDUCATION:

Master of Arts 1973. University of Minnesota. Major:
Anthropology with a strong emphasis in Archaeology.
Minor: Botany/Ecology.

Bachelor of Arts 1971. Moorhead State University.
Major: History. Minor: Anthropology.
Graduated Magna Cum Laude.

WORK EXPERIENCE:

1978 June through August. Participated in a cultural resources inventory of the shoreline of Lake Pokegama, Itasca County, Minnesota. This inventory was a portion of the Headwaters Lakes Survey being conducted under the auspices of the Army Corps of Engineers. Duties included the physical identification of sites, preparation of site reports, and the training of students in field survey techniques.

1978 April through May. Contracted by the St. Paul Science Museum to prepare a working paper on the general cultural themes of Melanesia, identify and appraise the Melanesian artifacts held in the Museum collections, and compile a film list and an annotated bibliography of works concerned with the anthropology of Melanesia.

1977 February through July. Assistant Archaeologist with the Otter Tail County Engineer's Office. Responsible for a site survey of the county, a written report on the county's prehistory and a catalogue of items held in private artifact collections; assistant director of the Dead River Archaeological Salvage Project at Otter Tail Lake; trained a student in the extraction and identification of plant macrofossil material.

1974-1976. Palaeoethnobotanist on the Wahgi Valley Archaeological Project, Papua New Guinea, under the auspices of the Australian National University. Responsible for the collection, extraction and identification of the plant macrofossil material and the final report on this material.

1973 October through December. Directed the excavation of settlement areas on the Kuk site, Wahgi Valley Archaeological Project, Papua New Guinea.

OTHER
EXPERIENCE:

1970 Summer. Participated in a field school at the
University of the Americas, Cholula, Puebla, Mexico.

1972 Summer. Participated in a field school sponsored by
the University of Minnesota. Aided in the excavation of
the Grace, Brower, and Old Shakopee Bridge sites, near
Mille Lacs Lake, Minnesota.

RESUME

NAME: Jan E. Streiff

SOCIAL
SECURITY #: 473-48-3094

ADDRESS: Home - Rural Route # 1
Box 38B
Markville, Minnesota 55048

Office - S-45A Ford Hall
Department of Anthropology
University of Minnesota
Minneapolis, Minnesota 55455
(612-376-2694)

BORN: 29 July 1943, LaCrosse, Wisconsin, USA

EDUCATION: Rochester Junior College
Rochester, Minnesota
Associate of Arts Degree, 1963

Mankato State College
Mankato, Minnesota
Bachelor of Science Degree, 1967
Majors: History, Geography, Education

University of Minnesota
Minneapolis, Minnesota
Post-graduate Two + years credits
Archaeology/Anthropology

EMPLOYMENT: Dover-Eyota Publis Schools
Eyota, Minnesota
Junior/Senoir High School Teacher
1967-1968

University of Minnesota
Department of Anthropology
Minneapolis, Minnesota
Laboratory Supervisor (Junior Scientist)
1968-1974

US Army Corps of Engineers
Environmental Resources Branch
St Paul District, St Paul, Minnesota
District Archaeologist
1974-1976

University of Minnesota
Department of Anthropology
Minneapolis, Minnesota
Consultant Archaeologist
1976-1977

EMPLOYMENT: continued...

Department of Natural Resources
Minnesota State Parks
St. Paul, Minnesota
Consultant Archaeologist
1977

Hamline University
Department of Anthropology
St. Paul, Minnesota
Research Associate (Field Director)
October 1977 - April 1978

University of Minnesota
Department of Anthropology
Minneapolis, Minnesota
Associate Scientist
April 1978-

Streiff update--

TWIN CITY ADDRESS: 3428 Park Terrace
Minneapolis, MN 55406
612-729-5271

PROFESSIONAL MEMBERSHIP: Society of American Archaeology
American Anthropological Association
Society of Professional Archaeologists
(certified in May, 1978)
Minnesota Historical Society
Council for Minnesota Archaeology
(current Secretary/Treasurer)

PROFESSIONAL ASSOCIATIONS: Assistant to the State Archaeologist
(non-paid) (1968-1978)
Acting State Archaeologist
(1975)
Cultural Resource Consultant to the
St Croix Valley Girl Scout Council
(member of Long Range Planning Task Force)
Consultant to the National Forest Service
(Chippewa and Superior Forests)

FIELD RESEARCH:

	<u>date</u>	<u>site</u>	<u>type</u>	<u>institution</u>	<u>position</u>	<u>project</u>	<u>supervisor</u>
1968	June/July	21 GD 61	mounds	U of MN	student	field school	Elden Johnson
		21 GD 2	village	U of MN	student	field school	Elden Johnson
	July/Aug	21 ML 9	village	U of MN	TA	field school	Elden Johnson
1969	June/July	21 GD 58	mounds	U of MN	director	field school	Elden Johnson
		21 GD 59	mounds	U of MN	director	field school	Elden Johnson
		21 GD 2	village	U of MN	asst dir	field school	Elden Johnson
	July/Aug	21 ML 9	village	U of MN	asst dir	field school	Elden Johnson
		21 ML 16	mounds	U of MN	director	field school	Elden Johnson
1970	June/July	21 KC 2	mound	U of MN	asst dir	field school	Jim Stoltman
		21 KC 3	mound	U of MN	asst dir	field school	Jim Stoltman
	July/Aug	Northern MN Wild Rice Transect Survey					Elden Johnson
1971	June/July	21 PN 8	village	U of MN	asst dir	field school	Elden Johnson
		21 PN 17	village	U of MN	asst dir	field school	Elden Johnson
		21 PN 20	village	U of MN	director	field school	Elden Johnson
	July/Aug	21 ML 12	village	U of MN	asst dir	field school	Elden Johnson
1972	June/July	21 DO 2	village	U of MN	asst dir	field school	Christina Harrisor
		21 ST 2	village	U of MN	asst dir	field school	Christina Harrisor
	July/Aug	21 ML 1	village	U of MN	asst dir	field school	Guy Gibbon
		21 ML 20	village	U of MN	asst dir	field school	Guy Gibbon
	Sept	BWCA Survey		U of MN	US Forest Service		Elden Johnson
1973	Feb	Red Lake River Survey			director	Corps of Engineers	
	April	21 GD 3	village	U of MN	director	salvage	
1974	June/July	21 ML 12	village	U of MN	asst dir	field school	Elden Johnson
	Aug	Wild Rice River Survey			director	Corps of Eng.	
	Aug	Roseau River Survey			director	Corps of Eng.	
	Aug	Koster Faunal Lab Northwestern					Sara Anderson
1975	May	Eau Galle Reservoir Survey			director	Corps of Eng.	
	Oct	Homme Reservoir Survey			director	Corps of Eng.	
	Nov	Ashtabula Reservoir Salvage			director	Corps of Eng.	
1976	June/July	21 ML 12	village	U of MN	asst dir	field school	Elden Johnson
1977	April	Snake River Campground Survey			director	MN DNR	
	June	St. Croix Park Survey			director	MN DNR	
	Oct/Nov	Gull Lake Survey Hamline			director	Corps of Eng. Christy Caine	
1978	April-Nov	Leech Lake Survey			director	Corps of Eng.	

FIELD RESEARCH SUPERVISED FOR CONTRACTS FOR CORPS OF ENGINEERS:

1975 Federal Dam, Leech Lake, MN
Mississippi River 9' Channel, MN, WISC, IOWA
Gull Lake Reservoir, MN
Lake Rebecca, MN
La Farge, WISC
Big Sandy Reservoir, MN
Winona, MN
Mankato, MN
Lac qui Parle, MN
Prairie du Chien, WISC
Ontonagon, MICH
Little Girls Point, MICH
Two Harbors, MN
Kindred, ND
Burlington, ND
Souris, ND
Walhalla, ND
Pembilier, ND

PUBLICATIONS: (*indicates illustrative and/or cartographic work contributed)

1968-73 "Minnesota Archaeological Newsletter," Department of Anthropology, Editor, University of Minnesota, Minneapolis, Minnesota.

1969 "The Birch Lake Mound Group" (with Elden Johnson and Martin Q. Peterson), Journal of the Minnesota Academy of Science, 31:1, 3-8.

* "Preliminary Notes on the Prehistoric Use of Wild Rice" by Elden Johnson in Minnesota Archaeologist, 30:31-43 (No. 2).

* "Decorative Motifs on Great Oasis Pottery" by Elden Johnson in Plains Anthropologist, 14:272-276 (No. 46).

1972 Roster of Excavated Prehistoric Sites in Minnesota to 1972, Minnesota Prehistoric Archaeology Series, No. 7, Minnesota Historical Society, St. Paul.

* "The Arvilla Complex" by Elden Johnson in the Minnesota Prehistoric Archaeology Series, No. 9, Minnesota Historical Society, St. Paul.

1973 "Archaeological Investigations in the Red Lake River, Minnesota Proposed Dam and Reservoir Project" for the US Army Corps of Engineers EIS.

* "A Note on Some Chipped Stone Objects From South Bougainville" by Nash and Mitchell in The Journal of the Polynesian Society, Vol. 82, #2, June, Wellington, New Zealand.

* "The Laurel Culture in Minnesota" by James B. Stoltman in the Minnesota Prehistoric Archaeology Series, No. 8, Minnesota Historical Society, St. Paul.

"Upper Mississippi River Navigation Impact Study: Archaeological Data" for the Corps of Engineers EIS.

1974 "Archaeological Investigation on the Wild Rice River and Felton Ditch" for the Corps of Engineers EIS.

"Archaeological Investigation on the Roseau River" for the Corps of Engineers EIS.

1975 "An Archaeological Survey at Eau Galle Reservoir Wisconsin" Unpublished mss, Department of Anthropology, University of Minnesota; Corps of Engineers, St. Paul.

"An Archaeological Survey Update of Homme Reservoir North Dakota" Unpublished mss, Department of Anthropology, University of Minnesota; Corps of Engineers, St. Paul

"The Salvage of a Burial at Ashtabula Reservoir North Dakota" Unpublished mss, Department of Anthropology, University of Minnesota; Corps of Engineers, St. Paul.

PUBLICATIONS: continued...

- 1976 * "The Sheffield Site: An Oneota Site on the St. Croix River" by Guy E. Gibbon in the Minnesota Prehistoric Archaeology Series, No. 10, Minnesota Historical Society, St. Paul.
- 1977 "Archaeological Field Survey of the Snake River Campground (SE 1/4 Section 36 T 39N R 20W)" Unpublished mss submitted to the Minnesota Department of Natural Resources, St. Paul.
- "Notes on Site Locations in St. Croix State Park, Pine County" Unpublished mss, Department of Anthropology, University of Minnesota.
- "Excavations at the Cooper Mound Site (21 ML 16)" with Elden Johnson. Unpublished mss, Department of Anthropology, University of Minnesota.
- 1979 "A Cultural Resources Investigation of the Reservoir Shorelines of Gull Lake, Leech Lake, Pine River, and Lake Pokegama" Principal Investigator, Elden Johnson, for the US Army Corps of Engineers, St Paul District, St Paul, MN.

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